

A11103 143344

NIST
PUBLICATIONS

NISTIR 89-3920

A BIBLIOGRAPHY OF THE NIST ELECTROMAGNETIC FIELDS DIVISION PUBLICATIONS

Edited by
Ruth Marie Lyons
Kathryn A. Gibson

National Institute of Standards and Technology
U.S. Department of Commerce
Boulder, Colorado 80303-3328

September 1989

QC
100
U56
89-3920
1989
C.2

NATIONAL INSTITUTE OF STANDARDS &
TECHNOLOGY
Research Information Center
Gaithersburg, MD 20899

NISTIR 89-3920

NISTIR
89-3920
1989
C.2.

A BIBLIOGRAPHY OF THE NIST ELECTROMAGNETIC FIELDS DIVISION PUBLICATIONS

Edited by
Ruth Marie Lyons
Kathryn A. Gibson

Electromagnetic Fields Division
Center for Electronics and Electrical Engineering
National Engineering Laboratory
National Institute of Standards and Technology
Boulder, Colorado 80303-3328

September 1989

(Supersedes NISTIR 88-3900)



U.S. DEPARTMENT OF COMMERCE, Robert A. Mosbacher, Secretary
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, Raymond G. Kammer, Acting Director

CONTENTS

	Page
INTRODUCTION	1
ANTENNAS	3
DIELECTRIC MEASUREMENTS.	22
ELECTROMAGNETIC INTERFERENCE	25
MICROWAVE METROLOGY.	59
NOISE.	77
REMOTE SENSING	83
TIME DOMAIN.	86
WAVEFORM METROLOGY	88
MISCELLANEOUS.	96
AUTHOR INDEX	109

A BIBLIOGRAPHY OF THE NIST ELECTROMAGNETIC FIELDS DIVISION PUBLICATIONS

Edited by

Ruth Marie Lyons and Kathryn A. Gibson

This bibliography lists the publications by the staff of the Electromagnetic Fields Division of the National Institute of Standards and Technology for the period January 1970 through August 1989. It supersedes NISTIR 88-3900 which listed the publications of the Electromagnetic Fields Division from January 1970 through August 1988. Selected earlier publications from the Division's predecessor organizations are included.

Key words: antennas; dielectric measurements; electromagnetic interference; microwave metrology; noise; nonionizing radiation; radiation hazards; time domain; waveform metrology.

INTRODUCTION

The Electromagnetic Fields Division was formed during the reorganization of NBS (now NIST) in April 1978. Originally, the Division developed measurement methods and standards, and provided metrological support for antenna systems, noise measurement equipment, fast pulse waveforms, electromagnetic interference, electromagnetic environmental characterization equipment, electromagnetic emission and immunity (or susceptibility) testing equipment, and especially for fields near sources or in other complicated field conditions. In April 1985, microwave and millimeter wave metrology was added to the Division.

The editors have attempted to include all work published by the Division staff in the period from January 1970 through August 1989. Work performed by authors before joining this Division or work by authors who have left this Division has been included only when it had special significance. A miscellaneous category includes general publications. A few references are listed in more than one category where appropriate.

Several other information sources may be useful to the reader who is interested in NIST activities connected with electromagnetic metrology. A companion bibliography, NISTIR 89-3921, lists publications of the Electromagnetic Technology Division for the period January 1970 through August 1989. Topics include metrology for laser systems, optical communication equipment, cryoelectronics, superconductors and other unusual electrical engineering materials. Three additional bibliographies list publications of the former Electromagnetics Division: NBSIR 73-320 (July 1972-June 1973); NBSIR 74-395 (July 1973-June 1974); NBSIR 75-818 (July 1974-June 1975). These were preceded

by a series of unpublished reports (edited by H. M. Altschuler) that cover the period back to 1956. An excellent summary of the whole field of electromagnetic metrology as it stood in 1967 was published as a special issue of the IEEE Proceedings (volume 55, June 1967). Advances in the following decades were described in two other special issues of the same journal (volume 66, April 1978 and volume 74, January 1986).

A Note on Abbreviations

NOTE: On August 23, 1988, the National Bureau of Standards (NBS) became the National Institute of Standards and Technology (NIST); therefore, documents with either prefix are considered NIST publications.

Most readers are familiar with the commonly used abbreviations for the names of the professional journals that appear in this bibliography. Some publication series are peculiar to NIST and may call for explanation. They are:

NISTIR - NIST Interagency/Internal Report	NBSIR - NBS Interagency/Internal Report
NIST TN - NIST Technical Note	NBS TN - NBS Technical Report
NIST SP - NIST Special Publication	NBS SP - NBS Special Publication
NIST HB - NIST Handbook	NBS HB - NBS Handbook
NIST JRES - NIST Journal of Research	NBS JRES - NBS Journal of Research
NIST MN - NIST Monograph	NBS MN - NBS Monograph

Purchase Procedures and Document Availability

NIST (NBS) Technical Notes, Special Publications, Handbooks, Journals of Research, and Monographs may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402. Orders must be accompanied by postal money order, express money order, or check made out to the Superintendent of Documents.

NIST (NBS) Interagency/Internal Reports (NISTIRs, NBSIRs) may be purchased from the National Technical Information Service, Springfield, VA 22161. Orders must be accompanied by postal money order, express money order, or check made out to NTIS.

Reprints of papers published in non-NIST media may be available in limited quantities from the authors.

ANTENNAS

BAIRD, R. C.

Microwave Antenna Measurement Services at the National Bureau of Standards

Dig., Antenna Meas. Tech. Assn. Mtg.
October 1981

BAIRD, R. C.; ESTIN, A. J.

The Orbiting Standards Package: A Recalibratable Satellite Instrument Assembly for Measuring Large Earth Station Antennas

Proc. 1982 Antenna Meas. Techniques Assoc., 5-7 October, 1982,
New Mexico State University, Las Cruces, NM, pp. 5-1 through 5-9
1982

BAIRD, R. C.; KERNS, D. M.

The Accurate Determination of Millimeter-Wave Antenna Characteristics by Deconvolution and Extrapolation Techniques

Proc. 1974 Millimeter-Wave Conf., 26-28 March, 1974, Vol. 2,
E 2-1 through E 2-12
1974

BAIRD, R. C.; NEWELL, A. C.; STUBENRAUCH, C. F.

A Brief History of Near-Field Measurements of Antennas at the National Bureau of Standards

IEEE Trans. on Antennas and Propagat., Spec. Issue on Near-Field Scanning Techn., Vol. 36, No. 6, pp. 727-733
June 1988

BAIRD, R. C.; DAYWITT, W. C.; NEWELL, A. C.; PERERA, S.; REPJAR, A. G.;
WAIT, D. F.; ESTIN, A. J.

Calibration Requirements for EHF Satellite Communication Systems
NBSIR 86-3058
October 1986

BENSEMA, W. D.

Broadband Orthogonal Array Antenna System: Microprocessor Control and Computation

Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981

Handbook for Broadband Isotropic Antenna System Volume 1 - Operations Manual

NBSIR 83-1693
July 1983

Antennas (cont.)

BUSSEY, H. E.; LARSEN, E. B.

Buried Antenna Performance: Development of Small Resonant Buried Antennas

RADC-TR-74-169M, AD 783274

June 1974

CRAWFORD, M. L.

Calibration of Broadbeam Antennas Using Planar Near-Field Measurements

Proc. 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July, 1976, Boulder, CO, pp. 53-56

1976

CRUZ, J. E.; LARSEN, E. B.

Screenroom Measurements of Antenna Factors

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985, Tampa, FL, p. 208

1985

DAY, G. W.; STUBENRAUCH, C. F.

Laser Far-Field Beam-Profile Measurements by the Focal Plane Technique

NBS Tech. Note 1001

March 1978

DAYWITT, W. C.

Error Equations Used in the NBS Precision G/T Measurement System

NBSIR 76-842

September 1976

A Precision Earth-Terminal System for Accurate C/KT, G/T, and EIRP Measurements with a Calibrated Radio Star

Proc. 1977 URSI Int. Symp. on Meas. in Telecommunications, 3-7 October, 1977, Lannion, France, pp. 1-4

1977

Error Equations Used in the NBS Earth-Terminal Measurement System

NBSIR 78-869

December 1977

Atmospheric Propagation Equations Used in the NBS Earth Terminal Measurement System

NBSIR 78-883

April 1978

An Error Analysis for the Measurement of Satellite EIRP using a Calibrated Radio Star

IEEE Trans. Instrum. Meas., Vol. IM-27, No. 3, pp. 253-258

September 1978

Antennas (cont.)

DAYWITT, W. C. (cont.)

An Error Analysis for the Use of Presently Available Lunar Radio Flux
Data in Broadbeam Antenna-System Measurements

NBS Tech. Note 1973

February 1984

A Preliminary Investigation into using the Sun as a Source for G/T
Measurements

NBSIR 84-3015

August 1984

A Simple Technique for Determining Joint Losses on a Coaxial Line from
Swept-Frequency Reflection Data

IEEE Trans. on Instrum. and Meas., Vol. IM-36, pp. 468-473

June 1987

DAYWITT, W. C.; KANDA, M.

G/T Measurement Errors with Radio Stars

Proc. 1975 IEEE Int. Antennas and Propagat. Symp., 2-4 June,
1975, Urbana-Champaign, IL, Session 20, pp. 460-463

1975

DOUGHERTY, H. T.; ESTIN, A. J.; MORGAN, W. L.; WOODRUFF, J. J.

The Orbiting Standards Platform

Proc. 1978 Antenna Applications Symp., 20-22 September, 1978,
Urbana-Champaign, IL, pp. 1-9

1978

ESTIN, A. J.; BAIRD, R. C.

Feasibility Study of Orbiting Standards Platform

NBSIR 78-886

June 1978

ESTIN, A. J.; STUBENRAUCH, C. F.; REPJAR, A. G.; NEWELL, A. C.

Optimized Wavelength-Sized Scalar Horns as Antenna Radiation Standards

1981 EEMTIC Dig., June 1981

1981

IEEE Trans. Instrum. Meas., Vol. IM-31, No. 1, pp. 53-56

March 1982

Antennas (cont.)

FITZGERRELL, R. G.

A Partial Loop Source of E & H Fields for Antenna Factor Calibration (A Loop Cell)

Proc. 1982 Antenna Meas. Techniques Assoc., 5-7 October, 1982,
New Mexico State University, Las Cruces, NM, pp. 15-1 through
15-22
1982

A Source of E&H Fields for Antenna-Factor Calibration

IEEE Trans. Electromagn. Compat., Vol. EMC-26, No. 2, pp. 58-65
May 1984

Linear Gain - Standard Antennas Below 1000 MHz

NBS Tech. Note 1098
May 1986

Standard Linear Antennas, 30 GHz to 1000 MHz

Proc. Conf. on Electromagn. Compat., 29 September-2 October,
1986, University of York, England, pp. 147-153
1986

Three PC-Computer Programs for Antenna Calculations Primarily for Use
Below 1000 MHz

IEEE Antennas and Propagat. Soc. (AP-S) Newslett., Vol. 29, No. 3,
pp. 30-32
June 1987

FRANCIS, M. H.; HILL, D. A.

Out-of-Band Response of Array Antennas

Proc. Antenna Meas. Techniques Assoc., 28 September-2 October,
1987, Seattle, WA, pp. 14-19
1987

FRANCIS, M. H.; STUBENRAUCH, C. F.

Comparison of Measured and Calculated Antenna Side Lobe Coupling Loss
in the Near Field Using Approximate Far-Field Data

IEEE Trans. on Antennas and Propagat., Vol. 36, No. 3, pp. 438-441
March 1988

FRANCIS, M. H.; YAGHJIAN, A. D.

Computations of Antenna Side-Lobe Coupling in the Near Field Using
Approximate Far-Field Data

NBSIR 82-1674
August 1982

Antennas (cont.)

FRANCIS, M. H.; REPJAR, A. G.; KREMER, D. P.

Antenna Measurements for Millimeter Waves at the National Bureau of Standards

Proc. Antenna Meas. Techniques Assoc., 12-16 September, 1988,
Atlanta, GA, pp. 13-13 - 13-17
September 1988

GREENLEE, D. H.; KANDA, M.; CHANG, D. C.

The Characteristics of Iris-Fed Millimeter Wave Rectangular Microstrip Patch Antennas

NBS Tech. Note 1063
October 1983

HILL, D. A.

Theory of Near-field Phased Arrays for Electromagnetic Susceptibility Testing

NBS Tech. Note 1072
February 1984

Out-of-Band Response of Reflector Antennas

NBSIR 85-3021
April 1985

Far-Field Transient Response of an Antenna from Near-Field Data

NBSIR 86-3063
December 1986

Antennas for Geophysical Applications

Antenna Handbook: Theory, Applications and Design (Chapter 3),
edited by U. T. Lo and S. W. Lee, Van Nostrand Reinhold Co.,
pp. 23-1 through 23-6
1988

HILL, D. A.; CAVCEY, K. H.

Coupling Between Two Antennas Separated by a Planar Interface

IEEE Trans. on Geoscience and Remote Sensing, Vol. GE-25, No. 4,
pp. 422-431
July 1987

Antennas (cont.)

HILL, D. A.; FRANCIS, M. H.

Out-of-Band Response of Antenna Arrays

NBSIR 86-3047

June 1986

Proc. 1987 IEEE Int. Symp. on Electromagn. Compat., 25-27 August,
1987, Atlanta, GA, pp. 435-438
1987

- IEEE Trans. on Electromagn. Compat., Vol. EMC-29, No. 4,
pp. 282-288
November 1987

HILL, D. A.; KOEPKE, G. H.

A Near-Field Array of Yagi-Uda Antennas for Electromagnetic
Susceptibility Testing

NBS Tech. Note 1082

July 1985

IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 4,
pp. 273-276
November 1986

An Array of Dipoles for Plane Wave Synthesis

Proc. 1985 Int. Symp. on Antennas and EM Theory, 26-28 August,
1985, Beijing, China, pp. 422-427
1985

HILL, D. A.; WAIT, J. R.

Electromagnetic Characteristics of a Coaxial Cable with Periodic Slots

IEEE Trans. Electromagn. Compat., Vol. EMC-22, No. 4, pp. 303-307

November 1980

JESCH, R. L.

Measured Vehicular Antenna Performance

IEEE Trans. Veh. Technol., Vol. VT-34, No. 2, pp. 97-107

May 1985

National Institute of Justice Technology Program, NIJ

Report-201-85

May 1986

Antennas (cont.)

KANDA, M.

Accuracy Considerations in the Measurement of the Power Gain of a Large Microwave Antenna

Proc. 1974 Int. IEEE/AP-S Symp., 10-12 June, 1974, Atlanta, GA,
pp. 43-45
1974

IEEE Trans. Antennas Propagat., Vol. AP-23, No. 3, pp. 407-411
May 1975

Study of Error Analysis for Absolute Flux Density Measurements of Cassiopeia

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 3, pp. 173-182
September 1976

A Relatively Short Cylindrical Broadband Antenna with Tapered Resistive Loading for Picosecond Pulse Measurements

NBSIR 77-861
August 1977

IEEE Antennas and Propagat. Soc. Dig., pp. 230-233
May 1978

IEEE Trans. Antennas and Propagat., Vol. AP-26, No. 3, pp. 439-447
May 1978

Transients in Resistively Loaded Antennas and Their Comparison with Conical Antennas and TEM Horns

NBSIR 78-876
March 1978

IEEE Trans. Antennas Propagat., Vol. AP-28, No. 1, pp. 132-136
January 1980

Analytical and Numerical Techniques for Analyzing an Electrically Short Dipole with a Nonlinear Load

NBSIR 78-898
November 1978

IEEE Trans. Antennas Propagat., Vol. AP-28, No. 1, pp. 71-78
January 1980

The Time Domain Characteristics of a Traveling Wave Linear Antenna with Linear and Non-Linear Loads

NBSIR 78-892(R)
February 1979

Antennas (cont.)

KANDA, M. (cont.)

The Effects of Resistive Loading on TEM Horns

NBSIR 79-1601

August 1979

The Characteristics of a Linear Antenna with Tapered Resistive and Capacitive Loading

Proc. 1980 IEEE AP Symp., 2-6 June, 1980, Quebec, Canada, Vol. 2, AP. 18-2, pp. 696-699

1980

The Effects of Resistive Loading on TEM Horns

IEEE Trans. Electromagn. Compat., Vol. EMC-24, No. 2, pp. 245-255

May 1982

An Electromagnetic Near-Field Sensor for Simultaneous Electric and Magnetic-Field Measurements

IEEE Trans. Electromagn. Compat., Vol. EMC-26, No. 3, pp. 102-110

August 1984

Transients in a Resistively Loaded Loop Antenna

Proc. 1984 Int. Symp. on Electromagn. Compat., 16-18 October, 1984, Tokyo, Japan, Vol. 1, pp. 286-290

1984

KANDA, M.; ORR, R. D.

Near-Field Gain of a Horn and an Open-Ended Waveguide; Comparison Between Theory and Experiment

IEEE AP/S Symp. on Antennas and Propagation

8-13 June, 1986, Philadelphia, PA, pp. 91-94

1986

Proc. 5th Int. Conf. on Electromagn. Compat., 29 September-2 October, 1986, University of York, England, pp. 137-145

1986

IEEE Trans. on Antennas and Propagat., Vol. AP-35, No. 1, pp. 33-40

January 1987

KANDA, M.; CHANG, D. C.; GREENLEE, D. H.

The Characteristics of Iris-Fed Millimeter Wave Rectangular Microstrip Patch Antennas

Proc. 1982 IEEE AP/S Symp., 24-28 May, 1982, University of New Mexico, Albuquerque, NM, pp. 292-295

1982

Antennas (cont.)

KERNS, D. M.

Comment on Correction of Errors in Aerial Far-Field Radiation-Pattern Determinations

Electronics Letters, Vol. 7, No. 24, pp. 706

December 1971

Plane-Wave Scattering Matrix Theory of Antennas and Antenna-Antenna Interactions: Formulation and Applications

NBSIR 75-824

January 1975

Plane-Wave Scattering Matrix Theory of Antennas and Antenna-Antenna Interactions

NBS MN 162

June 1981

KREMER, D. P.; REPJAR, A. G.

Antenna Calibrating Standards Using CW and Pulsed-CW Measurements and the Planar Near-Field Method

Proc. Antenna Meas. Techn. Assoc., 12-16 September, 1988,

Atlanta, GA, pp. 13-21 - 13-29

September 1988

LARSEN, E. B.

Calibration and Meaning of Antenna Factor and Gain for EMI Antennas

Interference Technology Engineers' Master (ITEM 1986), pp. 113-335
1986

LARSEN, E. B.; ANDREWS, J. R.

Using Fiber Optics in a Broadband, Sensitive, Isotropic Antenna -
15 kHz to 150 MHz

Proc. IEEE Int. Symp. on Electromagn. Compat., 13-15 July, 1976,
Washington, DC, pp. 385-389

1976

LARSEN, E. B.; CRUZ, J. E.

E&H Fields in Transmission Lines and Coils for Susceptibility Testing, Probe Calibration, and RF Exposure Chambers

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985,
Tampa, FL, p. 199

1985

LAWTON, R. A.; ONDREJKA, A. R.

Antennas and the Associated Time Domain Range for the Measurement of Impulsive Fields

NBS Tech. Note 1008

November 1978

LEWIS, R. L.

The Use of Three Term Recursion Relations for Numerical Computations as Applied to Near-Field Spherical Scanning

Proc. Int. Union of Radio Science (URSI) Int. Symp., 20-24 June,
1977, pp. 224-226
1977

Efficient Computation of the Far-Field Radiated by an Arbitrary Rectangular-Aperture Distribution

NBSIR 81-1643
April 1981

Spherical Scanning Data Processing: An Algorithm for Halving the Data Processing Effort when the Radiation into the Back Hemisphere is Negligible

Dig., 1981 IEEE APS Int. Symp., June 1981
1981

Spherical-Wave Source-Scattering-Matrix Analysis of the Mutual Coupling Between Two Antennas

Dig., 1981 IEEE AP-S Int. Symp.
June 1981

Spherical-Wave Source-Scattering Matrix Analysis of Coupled Antennas; A General System Two-Port Solution

IEEE Trans. on Antennas and Propagat., Vol. AP-35, No. 12,
pp. 1375-1380
December 1987

LEWIS, R. L.; NEWELL, A. C.

Efficient and Accurate Method for Calculating and Representing Power Density in the Near Zone of Microwave Antennas

IEEE Trans. on Antennas & Propag., Spec. Issue, Near-Field Scanning Techn., Vol. 36, No. 6, pp. 890-891
June 1988

LEWIS, R. L.; WITTMANN, R. C.

Improved Spherical and Hemispherical Scanning Algorithms

IEEE Trans. on Antennas and Propagat., Vol. AP-35, No. 12,
pp. 1381-1388
December 1987

MA, M. T.

A Theoretical Study of Unbalanced Ground Effects on Receiving Dipoles
NBSIR 79-1605

May 1979

Antennas (cont.)

MA, M. T. (cont.)

Synthesis of Broadband Antenna Arrays as Possible Over-the-Horizon
Radars Research Topics in EM Wave Theory (Chapter 9)
John Wiley Interscience, pp. 188-209
1981

Arrays of Discrete Elements

Antenna Engineering Handbook, Chapter 3, R. C. Johnson and H.
Jasik, McGraw-Hill Book Co.
January 1984

MUTH, L. A.

Mutual Impedances and Multiple Reflections in an N-Element Array
Environment
NBS Tech. Note 1078
February 1985

A Theory of Mutual Impedances and Multiple Reflections in an N-Element
Array Environment

Proc. 1985 Int. Symp. on Antennas and Propagat., 20-22 August,
1985, Kyoto, Japan, pp. 719-722
1985

Proc. 1985 Int. Symp. on Antennas and EM Theory, 26-28 August,
1985, Beijing, China, pp. 440-443
1985

Interelement Interactions in Phased Arrays: Theory, Methods of Data
Analysis, and Theoretical Simulations

NBS Tech. Note 1091
December 1985

Gradient Displacement Errors in Antenna Near-Field Measurements and
Their Effects on the Far Field

NBS Tech. Note 1306
October 1986

Experimental Study of Interpanel Interactions at 3.3 GHz

Proc. Antenna Meas. Techniques Assoc., 28 September-2 October,
1987, Seattle, WA, pp. 25-29
1987

Displacement Errors in Antenna Near-Field Measurements and Their Effect
on the Far Field

IEEE Trans. on Antennas and Propagat., Vol. 36, No. 5, pp. 581-591
May 1988

Antennas (cont.)

MUTH, L. A.; LEWIS, R. L.

An Iterative Technique to Correct Probe Position Errors in Planar
Near-Field to Far-Field Transformations

NIST TN-1323

October 1988

NEWELL, A. C.

Improved Polarization Measurements Using a Modified Three Antenna
Technique

Proc. 1975 IEEE Int. Antennas and Propagat. Symp., 2-4 June,
1975, Urbana-Champaign, IL, Session 15, pp. 337-340
1975

IEEE Trans. on Antennas and Propagat., Spec. Issue on Near-Field
Scanning Techn., Vol. 36, No. 6, pp. 852-854
June 1988

Error Analysis Techniques for Planar Near-Field Measurements

IEEE Trans. on Antennas and Propagat., Spec. Issue on Near-Field
Scanning Techn., Vol. 36, No. 6, pp. 754-768
June 1988

Development of Near-Field Test Procedures for Communication Satellite
Antennas, Phase I, Part 2

NBSIR 87-3081

August 1988

NEWELL, A. C.; CRAWFORD, M. L.

Planar Near-Field Measurements on Phased Array Antennas

Proc. 1974 Int. IEEE/AP-S Symp., 10-12 June, 1974, Atlanta, GA,
(Paper 6-7 in 1974 International IEEE/AP-S Symposium Digest,
p. 423)
1974

Planar Near-Field Measurements on High Performance Array Antennas

NBSIR 74-380

July 1974

NEWELL, A. C.; KERNS, D. M.

Determination of Both Polarization and Power Gain of Antennas by a
Generalized 3-Antenna Measurement Method

Electronics Letters, Vol. 7, No. 3, pp. 68-70
January 1971

Antennas (cont.)

NEWELL, A. C.; REPJAR, A. G.

Results of Spherical Near-Field Measurements on Narrow-Beam Antennas
Proc. 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1976, Boulder, CO, pp. 382-385
1976

Development of Near-Field Test Procedures for Communication Satellite
Antennas, Phase I, Part 1
NBSIR 85-3031
September 1985

NEWELL, A. C.; STUBENRAUCH, C. F.

The Effect of Random Errors in Planar Near-Field Measurements
Proc. 1986 Int. IEEE AP-S Symp., 8-13 June, 1986, Philadelphia,
PA, pp. 195-198
1986

Effect of Random Errors in Planar Near-Field Measurement
IEEE Trans. on Antennas and Propagat., Spec. Issue on Near-Field
Scanning Techn., Vol. 36, No. 6, pp. 769-773
June 1988

NEWELL, A. C.; YAGHJIAN, A. D.

Study of Errors in Planar Near-Field Measurements
Proc. 1975 IEEE Int. Antennas and Propagat. Symp.,
2-4 June, 1975, Urbana-Champaign, IL, Session 20, pp. 470-473
1975

NEWELL, A. C.; BAIRD, R. C.; WACKER, P. F.

Accurate Measurement of Antenna Gain and Polarization at Reduced
Distances by an Extrapolation Technique
IEEE Trans. Antennas Propagat., Vol. AP-21, No. 4, pp. 418-431
July 1973

NEWELL, A. C.; FRANCIS, M. H.; KREMER, D. P.

The Determination of Near-field Correction Parameters for Circularly
Polarized Probes
Proc. 1984 Antenna Meas. Techniques Assoc. Conf.,
2-4 October, 1984, Atlanta, GA, pp. 3A3-1 through 3A3-29
1984

NEWELL, A. C.; STUBENRAUCH, C. F.; BAIRD, R. C.

Calibration of Microwave Antenna Gain Standards
Proc. IEEE, Spec. Issue on Radio Meas. Methods and Standards,
Vol. 74, Vol. 1, pp. 129-132
January 1986

Antennas (cont.)

NEWELL, A. C.; FRANCIS, M. H.; KREMER, D. P.; GRIMM, K. R.

Results of Planar Near-field Testing with Ultralow Sidelobe Antennas
Dig., Int. IEEE/AP-S Symp. on Antennas and Propagat., 17-21 June,
1985, University of British Columbia, Vancouver, Canada,
pp. 693-698
1985

REEVE, G. R.

Synthesized Isotropic Pattern Antennas for EM Field Measurements
Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981

REEVE, G. R.; WAINWRIGHT, A. E.

A Frequency Tracking, Tuned, Receiving Monopole
Record, IEEE/APS Symp., June, 1981
1981

REPJAR, A. G.; KREMER, D. P.

Results of Planar Near-Field Measurements on a Compact Range at 18 and
54 GHz
Dig., IEEE/AP-S Symp.
1980

Accurate Evaluation of a Millimeter Wave Compact Range Using Planar
Near-Field Scanning
IEEE Trans. Antennas Propagat., Vol. AP-30, No. 3, pp. 419-425
May 1982

REPJAR, A. G.; NEWELL, A. C.; BAIRD, R. C.

Antenna Gain Measurements by an Extended Version of the NBS
Extrapolation Method
Dig., 1982 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1982, Boulder, CO, pp. F-7 through F-9
1982

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 88-91
March 1983

REPJAR, A. G.; NEWELL, A. C.; FRANCIS, M. H.

Accurate Determination of Planar Near-Field Correction Parameters for
Linearly Polarized Probes
IEEE Trans. on Antennas and Propagat., Special Issue on Near-Field
Meas., Vol. 36, No. 6, pp. 855-868
June 1988

Antennas (cont.)

STUBENRAUCH, C. F.

Some Recent Near-Field Antenna Measurements
Proc. 1979 Antenna Application Symp., September, 1979
1979

STUBENRAUCH, C. F.; FRANCIS, M. H.

Comparison of Measured and Calculated Mutual Coupling in the Near Field
Between Microwave Antennas
NBSIR 84-3010
June 1984

Proc. 1984 Antenna Applications Symp., 19-21 September, 1984,
University of Illinois, Urbana-Champaign, IL, pp. 1-21
1984

STUBENRAUCH, C. F.; YAGHJIAN, A. D.

Determination of Mutual Coupling Between Co-Sited Microwave Antennas
and Calculation of Near-Zone Electric Field
NBSIR 81-1630
June 1981

STUBENRAUCH, C. F.; SPIESS, W.; GALLIANO, P. G.; BABJI, T.

International Intercomparison of Electric Field Strength at 100 MHz
Dig., 1982 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1982, Boulder, CO, pp. P-3 through P-4
1982

TAGGART, H. E.; SHAFER, J. F.

Testing of Electronic Industries Association Land-Mobile Communication
Antenna Gain Standards at the National Bureau of Standards
IEEE Trans. Veh. Technol. VT-27, pp. 259-264
November 1978

TREADO, M. J.; TAGGART, H. E.; NELSON, R. E.; WORKMAN, J. L.

Fixed and Base Station Antennas
National Institute of Justice (NIJ) Standard-0204.01 (Supercedes
National Institute for Law Enforcement and Criminal Justice
(NILECJ) STD-0204.00, dated November 1977)
December 1981

WACKER, P. F.

Near-Field Antenna Measurements Using a Spherical Scan: Efficient Data
Reduction with Probe Correction
CPEM Dig., No. 113, pp. 286-288 (Institution of Electrical
Engineers, London, England)
1974

Antennas (cont.)

WACKER, P. F. (cont.)

Antenna Measurements at the National Bureau of Standards Near-Field and Extrapolation Techniques

Proc. 1974 Colloquium on Microwave Communication (5th), 24-30 June, 1974, Budapest, PME-113-114.

1974

Non-Planar Near-Field Measurements: Spherical Scanning

NBSIR 75-809

1975

Symmetry Analysis Applied to Scattering, Inverse Scattering, and Antenna Patterns: Measurements, Moment Method, and Characteristic Modes

Proc. 1977 IEEE/Antennas and Propagat. Soc. Int. Symp., pp. 177-180

1977

Symmetry Analysis Applied to Wave Theory

Int. IEEE/AP-S Symp. Dig.

1977

Recent Results with Spherical Near-Field Antenna Scanning at the National Bureau of Standards

Proc. 1977 European Space Agency Symp., 6-8 June, 1977, Noordwijk (Netherlands), pp. 159-164

1977

A Qualitative Survey of Near-Field Analysis and Measurement

NBSIR 79-1602

January 1979

Plane-Radial Scanning Techniques With Probe Correction; Natural Orthogonalities With Respect to Summation on Planar Measurement Lattices

Dig. of the IEEE/APS Symp.

February 1979

WACKER, P. F.; NEWELL, A. C.

Advantages and Disadvantages of Planar, Circular Cylindrical and Spherical Scanning and Description of the NBS Antenna Scanning Facilities

Proc. 1977 European Space Agency Symp., 6-8 June, 1977, Noordwijk (Netherlands), pp. 115-121

1977

Antennas (cont.)

WAIT, D. F.

Satellite Earth Terminal G/T Measurements

Microwave Journal, Vol. 20, No. 4, pp. 49, 51, 58

April 1977

Earth Terminal Measurement System Operations Manual

NBSIR 78-879

April 1978

Precision Measurement of Antenna System Noise Using Radio Stars

Dig., 1982 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1982, Boulder, CO, p. F-17

1982

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 110-116

March 1983

Earth Terminal Measurement System Operations Manual (Revised)

NBSIR 83-1679(R)

January 1983

WAIT, J. R.; HILL, D. A.

Fields of a Horizontal Loop of Arbitrary Shape Buried in a Two-Layer
Earth

Radio Science, Vol 15, No. 5, pp. 903-912

September-October 1980

WILSON, P. F.; CHANG, D. C.; MA, M. T.

Input Impedance of a Probe Antenna Exciting a TEM Cell

NBS Tech. Note 1054

April 1982

WITTMANN, R. C.

Probe Correction in Spherical Near-field Scanning Viewed as an Ideal
Probe Measuring an Effective Field

Dig., 1984 Int. Symp. on Antennas and Propagat., 25-29 June, 1984,
Boston, MA, pp. 674-677

1984

WYSS, J. C.; SHEERAN, S.

A Passive, Optical Modulator and Link for Antennas

IEEE J. of Lightwave Technol., Vol. LT-3, No. 2, pp. 316-321

April 1985

Antennas (cont.)

WYSS, J. C.; ANSON, W. J.; ORR, R. D.

Building Penetration Project

NBSIR 84-3009

September 1984

WYSS, J. C.; KANDA, M.; MELQUIST, D. G.; ONDREJKA, A. R.

Optical Modulator and Link for Broadband Antennas

Dig., 1982 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1982, Boulder, CO, pp. P-16 through P-17

1982

YAGHJIAN, A. D.

Upper-Bound Errors in Far-Field Antenna Parameters Determined from
Planar Near-Field Measurements. Part 1: Analysis

NBS Tech. Note 667

October 1975

A Direct Approach to the Derivation of Electric Dyadic Green's
Functions

AP-Symposium Dig., October, 1976, pp. 76-156

October 1976

NBS Tech. Note 1000

December 1977

Near-Field Antenna Measurements on a Cylindrical Surface: A Source
Scattering-Matrix Formulation

NBS Tech. Note 696

September 1977

An Approximate Expression for the Principal Beamwidth of Directive
Antennas in Terms of Aperture Fields

NBSIR 81-1644

March 1981

A Delta-Distribution Derivation of the Electric Field in the Source
Region

Dig., 1981 IEEE/AP-S Symp., June, 1981

June 1981

J. of the Electromagn. Soc., Vol. 2, No. 2; pp. 161-167

April-June 1982

Efficient Computation of Antenna Coupling and Fields Within the
Near-Field Region

IEEE Trans. Antennas Propagat., Vol. AP-30, No. 1, pp. 113-128

January 1982

Antennas (cont.)

YAGHJIAN, A. D. (cont.)

Approximate Formulas for the Far Field and Gain of Open-Ended
Rectangular Waveguide

NBSIR 83-1689

May 1983

YAGHJIAN, A. D.; WITTMANN, R. C.

The Receiving Antenna as a Linear Differential Operator: Application to
Spherical Near-Field Scanning

IEEE Trans. on Antenna and Propagat., Vol. AP-33, No. 11,
pp. 1175-1185

November 1985

DIELECTRIC MEASUREMENTS

BENNETT, W. S.; TAGGART, H. E.

Characteristics of A CISPR/VDE Far-Field EMI Test Site with Ground Screen

Proc. Third Rotterdam Electromagn. Compat. Symp., December 1978
1978

BUSSEY, H. E.

Measurement of RF Properties of Materials, A Survey

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 1046-1053
June 1967

Rapport Sur la Comparaison Int.E des Mesures de Permittivite Complexe a 9 GHz (Int. Comparison of Complex Permittivity Measurement at 9 GHz)

Proc. of Comite Consultatif, D'Electricite Comite, Int. des Poids et Mesures, 12-13 October, 1972, Sevres, France, pp. 124-137
1972

Wavelength of a Slotted Rectangular Line Containing Two Dielectrics

NBSIR 73-326

July 1973

Dielectric Measurements of Lunar Soil

Proc. 1979 Lunar and Planetary Science Conf. (10th) Nat.

Aeronautics and Space Administration, 19-23 March, 1979, Lyndon B. Johnson Space Center, Houston, TX

1979

Open Circuited Coaxial Resonator for High Sensitivity Dielectric Measurements, Application to Lunar Soil 70051-20

Proc. 1979 Lunar and Planetary Science Conf. (10th) Nat.

Aeronautics and Space Administration, 19-23 March, 1979, Lyndon B. Johnson Space Center, Houston, TX

1979

Dielectric Measurements in a Shielded Open Circuit Coaxial Line

IEEE Trans. Instrum. Meas., Vol. IM-29, No. 2

June 1980

BUSSEY, H. E.; RICHMOND, J. H.

Scattering by a Lossy Dielectric Circular Cylindrical Multilayer, Numerical Values

IEEE Trans. Antennas Propagat., Vol. 23, No. 5, pp. 723-725
September 1975

BUSSEY, H. E.; MORRIS, D.; ZALTSMAN, E. B.

International Comparison of Complex Permittivity Measurement at 9 GHz

IEEE Trans. Instrum. Meas., Vol. IM-23, No. 3, pp. 235-239

September 1974

Dielectric Measurements (cont.)

DAYWITT, W. C.

Complex Permittivity of Beryllium Oxide Between 100 and 300 Kelvins at
9.3 Gigahertz

IEEE Trans. Instrum. Meas., Vol. IM-34, No. 1, pp. 98-99
March 1985

ELLERBRUCH, D. A.; LITTLE, W. E.; BOYNE, H. S.; BACHMAN, D. D.

Microwave Characteristics of Snow

Proc. 1977 Western Snow Conf., 18-21 April, 1977, Albuquerque,
NM, 7 p
1977

GEYER, R. G.

Dielectric Mixing Rules for Background Test Soils

NBSIR 88-3095
June 1988

HILL, D. A.

Near-Field Detection of Buried Dielectric Objects

IEEE Trans. on Geoscience and Remote Sensing, Vol. 27, No. 4, pp.
364-368
July 1989

JESCH, R. L.

Dielectric Measurements of Five Different Soil Textural Types as
Functions of Frequency and Moisture Content

NBSIR 78-896
1978

Dielectric Measurements of Oil Shale as Functions of Temperature and
Frequency

IEEE. Trans. Geosci. and Remote Sensing, Vol. GE-22, No. 2,
pp. 99-105
March 1984

JONES, R. N.; BUSSEY, H. E.; LITTLE, W. E.; METZKER, R. F.

Electrical Characteristics of Corn, Wheat, and Soya in the 1-200 MHz
Range

NBSIR 78-897
October 1978

LAWTON, R. A.

Autocorrelation and Power Measurement with Pyroelectric and Dielectric
Bolometers

IEEE Trans. Instrum. Meas., IM-22, pp. 299-306
December 1973

Dielectric Measurements (cont.)

LAWTON, R. A.; ANDERSON, W. T.

Two Layer Dielectric Microstrip Line Structure: SiO₂ on Si and GaAs on Si: Modeling and Measurement

IEEE Trans. on Microwave Theory and Techniques, Vol. 36, No. 4,
pp. 785-789

April 1988

VANZURA, E. J.; KISSICK, W. A.

Advances in NIST Dielectric Measurement Capability Using a
Mode-Filtered Cylindrical Cavity

Proc. 1989 IEEE MTT-S Int. Microwave Symp., 13-15 June 1989, Long
Beach, CA, pp. 901-904

1989

ELECTROMAGNETIC INTERFERENCE

ADAMS, J. W.

Measurement of Electromagnetic Radiation from Electric Rail Cars
NBSIR 82-1669
August 1982

ADAMS, J. W.; FRIDAY, D. S.

Measurement Procedures for Electromagnetic Compatibility Assessment of
Electroexplosive Devices
IEEE Trans. on Electromagn. Compat., Vol. 30, No. 4, pp. 484-494
November 1988

ADAMS, J. W.; TAGGART, H. E.

Electromagnetic Compatibility Evaluation of Seven Electronic Brake
Systems
NBSIR 78-872
February 1978

ADAMS, J. W.; VANZURA, E. J.

Shielding Effectiveness Measurements of Plastics
NBSIR 85-3035
January 1986

EMC Technology and Interference Control News, pp. 39-44
September-October 1986

ADAMS, J. W.; BENSEMA, W. D.; KANDA, M.

Electromagnetic Noise in Grace Mine
NBSIR 74-388
June 1974

ADAMS, J. W.; BENSEMA, W. D.; TOMOEDA, N. C.

Surface Magnetic Field Noise Measurements at Geneva Mine
NBSIR 74-369
June 1974

ADAMS, J. W.; CRAWFORD, M. L.; SHAFER, J. F.

Electromagnetic Interference (EMI) Measurements for Automotive
Applications
Proc. 1976 SAE Automotive Congress Conf., 23-27 February, 1976,
Detroit, MI, pp. 1-6
1976

ADAMS, J. W.; TAGGART, H. E.; SPAULDING, A. D.

Survey Report of the U.S. Bureau of Mines Electromagnetic Noise
Measurement Program
NBS Rept. 10723
November 1971

Electromagnetic Interference (cont.)

ADAMS, J. W.; KANDA, M.; SHAFER, J. F.; WU, Y.

Near-Field Electric Field Strength Levels of EM Environments Applicable to Automotive Systems

Proc. 1977 IEEE Int. Symp. on Electromagn. Compat., 2-4 August, 1977, Seattle, WA, pp. 336-343
1977

ALSPACH, W. J.; MILLER, C. K. S.; REEVE, G. R.

An Assessment of Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) Measurement Practices to Meet U.S. Army Aviation Research and Development Command EMI/EMC Requirements

NBSIR 84-1698(R)
January 1984

ANDREWS, J. R.

Picosecond Pulse Generators Using Microminiature Mercury Switches

NBSIR 74-377
1974

Impulse Generator Spectrum Amplitude Measurement Techniques

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 4, pp. 380-384
December 1976

ANDREWS, J. R.; ARTHUR, M. G.

Spectrum Amplitude--Definition, Generation and Measurement

NBS Tech. Note 699
October 1977

ANDREWS, J. R.; BALDWIN, E. E.

UHF Impulse Generator

NBSIR 78-880
April 1978

SHF Impulse Generator

NBSIR 78-888
June 1978

ARTHUR, M. G.

Impulse Spectral Intensity -- What is it?

NBSIR 74-365
May 1974

Proc. 1978 Electromagn. Interference Workshop

NBS SP 551
July 1979

Electromagnetic Interference (cont.)

ARTHUR, M. G.; ORR, R. D.; REEVE, G. R.

Planning Guidance for Future EMI Measurement Instrumentation
NBSIR 82-1662
April 1982

BAIRD, R. C.

Methods of Calibrating Microwave Hazard Meters
Proc. Int. Symp on Biological Effects and Health Hazards of
Microwave Radiation, October, 1973, Warsaw, Poland, pp. 228-236
1973

BELSHER, D. R.

Development of Near-Field Electric Energy Density Meter Model EDM-2
Department of Health, Education, and Welfare, Publ. No. (NIOSH)
75-140
March 1975

BENSEMA, W. D.

Coal Mine Magnetic-Field Noise Measurements
Proc. 1972 W. Virginia Conf. on Coal Mine Electrotechnology
(1st), 2-4 August, 1972, West Virginia Univ., Morgantown, pp.
XII-1 through XII-12
1972

A Noise Spectrum Measurement System Using the Fast Fourier Transform
IEEE Trans. Electromagn. Compat., Vol. EMC-19, No. 2, pp. 37-43
May 1977

Amplitude, Time, and Frequency Statistics of Quasi-Impulsive Noise
Proc. 1977 Electromagn. Compat. Symp., 18-30 June, 1977, Montreux
(Switzerland), pp. 347-352
1977

Broadband Orthogonal Array Antenna System: Microprocessor Control and
Computation

Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981

Handbook for Broadband Isotropic Antenna System Volume 1 - Operations
Manual

NBSIR 83-1693
July 1983

BENSEMA, W. D.; KANDA, M.; ADAMS, J. W.

Electromagnetic Noise in Robena No. 4 Coal Mine
NBS Tech. Note 654
April 1974

Electromagnetic Interference (cont.)

BENSEMA, W. D.; KANDA, M.; ADAMS, J. W. (cont.)

Electromagnetic Noise in Itmann Mine

NBSIR 74-390

June 1974

BENSEMA, W. D.; KOEPKE, G. H.; MEDLEY, H. W.

Handbook for NBS Multisensor Automated EM Field Measurement System

NBSIR 86-3056

October 1986

BENSEMA, W. D.; REEVE, G. R.; KOEPKE, G. H.

A Multisensor Automated EM Field Measurement System

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985,
Tampa, FL, pp. 200-202

1985

BOWMAN, R. R.

Field Strength Above 1 GHz: Measurement Procedures for Standard
Antennas

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 981-990

June 1967

Quantifying Hazardous Electromagnetic Microwave Fields: Practical
Considerations

Proc. 1969 Biological Effects and Health Implications of
Microwave Radiation, 17-19 September, 1969, Richmond, VA., BRH/DBE
70-2, U.S. Dept. of Health, Education, and Welfare, Rockville,
MD., pp. 204-209

June 1970

Some Recent Developments in the Characterization and Measurement of
Hazardous Electromagnetic Fields

Proc. 1973 Int. Symp. Biologic Effects and Health Hazards of
Microwave Radiation, 15-18 October, 1973, Warsaw (Poland),
pp. 217-227

1973

A Probe for Measuring Temperature in Radio-Frequency-Heated Material

IEEE Trans. Microwave Theory Technol., Vol. MTT-24, No. 1,
pp. 43-45

January 1976

Calibration Techniques for Electromagnetic Hazard Meters: 500 MHz To
20 GHz

NBSIR 75-805

April 1976

Electromagnetic Interference (cont.)

BOWMAN, R. R. (cont.)

A Temperature Probe for Radio-Frequency Heated Material
NBSIR 81-1634
January 1981

CAMELL, D. G.; LARSEN, E. B.; ANSON, W. J.

NBS Calibration Procedures for Horizontal Dipole Antennas (25 to 100 MHz)
Proc. IEEE Int. Symp. on Electromagn. Compat., 2-4 August, 1988, Seattle, WA, pp. 390-394
1988

CAVCEY, K. H.

Transmission Loss Through 6061 T-6 Aluminum Using a Pulsed Eddy Current Source
"Materials Evaluation", American Society for Nondestructive Testing, Vol. 47, No. 2, pp. 216-218
February 1989

CAVCEY, K. H.; FRIDAY, D. S.

Aircraft Field Degradation and Electromagnetic Compatibility
NBSIR 88-3083
January 1988

CLARK, H. E.

Requirements for an Effective National Nonionizing Radiation Measurement System
NBS SP 613
June 1981

CRAWFORD, M. L.

Evaluation of Reflectivity Level of Anechoic Chambers Using Isotropic, 3-Dimensional Probing
Proc. 1974 Int. IEEE/AP-S Symp. Dig., 10-12 June, 1974, Atlanta, GA, pp. 28-34
1974

Generation of Standard EM Fields Using TEM Transmission Cells

IEEE Trans. Electromagn. Compat., Vol. EMC-16, No. 4, pp. 189-195
November 1974

Generation of Standard EM Fields for Calibration of Power Density Meters 20 kHz to 1000 MHz

NBSIR 75-804
January 1975

Electromagnetic Interference (cont.)

CRAWFORD, M. L. (cont.)

Techniques for Measurement of Electromagnetic Radiation and
Susceptibility of Electronic Equipment

Proc. 1975 Symp. and Technical Exhib. on Electromagn. Compat.
(1st), 20-22 May, 1975, Montreux, Switzerland, pp. 38-44
1975

Experimental Evaluation of the Radiation Characteristics of Dipole
Sources Enclosed in a TEM Transmission Cell

Proc. 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1976, Boulder, CO, pp. 57-59
1976

Improved Techniques and Instrumentation for EMC Measurements

IEEE 1976 Int. Symp. on Electromagn. Compat., 13-15 July, 1976,
Washington, DC
1976

Comparison and Selection of Techniques for Measuring EM Radiated
Emissions and Susceptibility of Large Equipment

Proc. 1979 Symp. and Technical Exhib. on Electromagn. Compat.
(3rd), 1-3 May, 1979, Rotterdam (Netherlands), pp. 115-122
1979

Evaluation of a Reverberation Chamber Facility for Performing EM
Radiated Fields Susceptibility Measurements

NBSIR 81-1638
February 1981

Options to Open-Field and Shielded Enclosure Electromagnetic
Compatibility Measurements

Proc. 1981 Int. Electromagn. Compat. Symp., 10-12 March, 1981,
Zurich, Switzerland
1981

Improving the Repeatability of EM Susceptibility Measurements of
Electronic Components When Using TEM Cells

SAE Technical Paper Series, 830607, International Congress and
Exposition, 28 February-4 March, 1983, Detroit, MI, pp. 1-8
1983

Evaluation of Shielded Enclosure for EMI/EMC Measurements Without and
With RF Anechoic Material

Proc. 1983 Electromagn. Compat. Symp. and Exhib., 8-10 March,
1983, Zurich, Switzerland, pp. 397-402
1983

Electromagnetic Interference (cont.)

CRAWFORD, M. L. (cont.)

Comparison of Open-Field, Anechoic Chamber and TEM Cell
Facilities/Techniques for Performing Electromagnetic Radiated Emissions
Measurements

Record, IEEE 1983 Int. Symp. on Electromagn. Compat., 23-25
August, 1983, Arlington, VA, pp. 413-418
1983

A TEM Driven Reverberating Chamber A Single Facility for Radiated EMS/V
Testing 10 kHz - 18 GHz?

Proc. EMC Expo 1987, Int. Conf. on Electromagn. Compat., 19-21
May, 1987, San Diego, CA, pp. T11.18- T11.28
1987

TEM/Reverberating Chamber Design/Concept Study: A Single Facility for
Large System Radiated EMC Testing, 10 kHz-40 GHz

Proc. EMC EXPO, 1-3 August 1989, Washington, DC, pp. B6.22-B6.29
1989

CRAWFORD, M. L.; BEAN, J. L.

NSWC Reverberating Chamber A High Power Microwave Exposure Chamber
Proc. 3rd Nat. High Power Microwave Technical Conf., 1-5
December, 1986, Kirtland AFB, NM, 5 p.
1986

CRAWFORD, M. L.; KOEPKE, G. H.

Performing EM Susceptibility/Vulnerability Measurements Using a
Reverberation Chamber

Proc. EMC EXPO 1986, Int. Conf. on Electromagn. Compat., 16-19
June, 1986, Washington, DC, pp. T28.7-T28.14
1986

Proc. 7th Int. Zurich Symp. and Technical Exhib. on Electromagn.
Compat., 3-5 March, 1987, Zurich, Switzerland, pp. 121-126
1987

Operational Considerations of a Reverberation Chamber for EMC Immunity
Measurements, Some Experimental Results

Proc. 1984 IEEE Nat. Symp. on Electromagn. Compat., 24-26 April,
1984, San Antonio, TX, pp. 47-54
1984

Comparing EM Susceptibility Measurement Results Between Reverberation
and Anechoic Chambers

Record, IEEE 1985 Int. Symp. on Electromagn. Compat., 20-22
August, 1985, Wakefield, MA, pp. 200-202
1985

Electromagnetic Interference (cont.)

CRAWFORD, M. L.; KOEPKE, G. H. (cont.)

Design, Evaluation and Use of a Reverberation Chamber for Performing
Electromagnetic Susceptibility/Vulnerability Measurements

NBS Tech. Note 1092

April 1986

EMR Test Facilities - Evaluation of Reverberation Chambers Located at
NSWC, Dahlgren, VA

NBSIR 86-3051

June 1986

Preliminary Evaluation of Reverberation Chamber Method for Pulsed RF
Immunity Testing

Record, IEEE Int. Symp. on Electromagn. Compat., 16-18 September,
1986, San Diego, CA, pp. 270-278

1986

CRAWFORD, M. L.; LADBURY, J. M.

Mode-Stirred Chamber for Measuring Shielding Effectiveness of Cables &
Connectors An Assessment of MIL-STD 1344A Method 3008

Proc. 1988 IEEE Int. Symp. on Electromagn. Compat., 1-5 August,
1988, Seattle, WA, pp. 30-36

1988

CRAWFORD, M. L.; THOMAS, C. L.

Converting a Rectangular Shielded Enclosure into a TEM Transmission
Cell for EMI Measurements

IEEE 1977 Int. Symp. on Electromagn. Compat., 2-5 August, 1977,
Seattle, WA

1977

CRAWFORD, M. L.; WORKMAN, J. L.

Asymmetric Versus Symmetric TEM Cells for EMI Measurements

Proc. 1978 IEEE Int. Symp. on Electromagn. Compat., 20-22 June,
1978, Atlanta, GA, pp. 204-210

1978

Using a TEM Cell for EMC Measurements of Electronic Equipment

NBS Tech. Note 1013

April 1979

Predicting Free-Space Radiated Emissions from Electronic Equipment
Using TEM Cell and Open-Field Site Measurements

Record, 1980 Int. Electromagn. Compat. Symp.

1980

Electromagnetic Interference (cont.)

CRAWFORD, M. L.; WORKMAN, J. L. (cont.)

Spherical Dipole for Radiating Standard Fields
Dig., 1980 Conf. Precision Electromagn. Meas.
June 1980

CRAWFORD, M. L.; KOEPKE, G. H.; LADBURY, J. M.

EMR Test Facilities Evaluation of Reverberating Chamber Located at
RADC, Griffiss, AFB, Rome, New York
NBSIR 87-3080
December 1987

CRAWFORD, M. L.; WORKMAN, J. L.; THOMAS, C. L.

Generation of EM Susceptibility Test Fields Using a Large
Absorber-Loaded TEM Cell
IEEE Trans. Instrum. Meas., Vol. IM-26, No. 3, pp. 336-343
September 1977

Expanding the Bandwidth of TEM Cells for EMC Measurements

IEEE Trans. Electromagn. Compat., Vol. EMC-20, No. 3, pp. 368-375
August 1978

CRUZ, J. E.

Design, Construction, and Calibration of the Broadband Electric Field
Monitor (EFM-5)
Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981

CRUZ, J. E.; LARSEN, E. B.

Screenroom Measurements of Antenna Factors
Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985,
Tampa, FL, p. 208
1985

Assessment of Errors for MIL-STD-461/462

NBS Tech. Note 1300
October 1986

Alternative Techniques for Some Typical MIL-STD-461/462 Types of
Measurements

NBS Tech. Note 1320
March 1989

CRUZ, J. E.; DRIVER, L. D.; KANDA, M.

Design of the National Bureau of Standards Isotropic Magnetic Field
Meter (MFM-10) 300 kHz to 100 MHz
NBS Tech. Note 1085
October 1985

Electromagnetic Interference (cont.)

DECKER, W. F.; CRAWFORD, M. L.; WILSON, W. A.

Construction of a Large Transverse Electromagnetic Cell

NBS Tech. Note 1011

February 1979

DRIVER, L. D.; CRUZ, J. E.

Development of the NBS Isotropic Magnetic-Field Meter (MFM-10), 300 kHz to 100 MHz

Proc. 1982 Int. Symp. on Electromagn. Compat., 8-10 September, 1982, Santa Clara, CA, pp. 460-467
1982

DRIVER, L. D.; KANDA, M.

An Optically Linked Electric and Magnetic Field Sensor for Poynting Vector Measurements in the Near Fields of Radiating Sources

IEEE Trans. on Electromagn. Compat., Vol. 30, No. 4, pp. 495-503
November 1988

DRIVER, L. D.; REEVE, G. R.

Application of a Systematic Approach to an Investigation of HF Interference to a Shipboard Radar Set

Proc. 1984 IEEE Nat. Symp. on Electromagn. Compat., 24-26 April, 1984, San Antonio, TX, pp. 211-218
1984

FITZGERRELL, R. G.

Experimental RF Field Polarization Meter

FAA-RD-74-188

1975

Free-Space Transmission Loss for Anechoic Chamber Performance Evaluation

Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat., 18-20 August, 1981, Boulder, CO
1981

IEEE Trans. Electromagn. Compat., Vol. EMC-24, No. 3, pp. 356-358
August 1982

A Partial Loop Source of E & H Fields for Antenna Factor Calibration (A Loop Cell)

Proc. 1982 Antenna Meas. Techniques Assoc., 5-7 October, 1982, New Mexico State University, Las Cruces, NM, pp. 15-1 through 15-22
1982

Electromagnetic Interference (cont.)

FITZGERRELL, R. G. (cont.)

E-Fields Over Ground

Record, IEEE 1983 Int. Symp. on Electromagn. Compat., 23-25
August, 1983, Arlington, VA, pp. 6-9
1983

A Source of E&H Fields for Antenna-Factor Calibration

IEEE Trans. Electromagn. Compat., Vol. EMC-26, No. 2, pp. 58-65
May 1984

Site Attenuation

Record, IEEE 1985 Int. Symp. on Electromagn. Compat., 20-22
August, 1985, Wakefield, MA, pp. 612-617
1985

NBS Tech. Note 1089

November 1985

IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 1, pp. 38-40
February 1986

Monopole Impedance and Gain Measurements on Finite Ground Planes

IEEE Trans. on Antennas and Propat., Vol. 36, No. 3, pp. 431-438
March 1988

Monopole Impedance and Gain Measurements of Finite Ground Planes

National Institute of Justice Report, 200-87
May 1989

FLANIGAN, W. F. Jr.; BOWMAN, R. R.; LOWELL, W. R.

Nonmetallic Electrode System for Recording EEG and ECG in
Electromagnetic Fields

Physiology and Behavior, Vol. 18, No. 3, pp. 531-533
1977

FRIDAY, D. S.

Methodology for Statistical Control of the Anechoic Chamber Field
Generation System

NBSIR 85-3033

January 1986

FRIDAY, D. S.; ADAMS, J. W.

A Statistical Characterization of Electroexplosive Devices (EED)
Relevant to Electromagnetic Compatibility (EMC)

NBS Tech. Note 1094

May 1986

Electromagnetic Interference (cont.)

GREENE, F. M.

NBS Field-Strength Standards and Measurements (30 MHz to 1000 MHz)
Proc. IEEE Spec. Issue on Radio Measurement Methods and
Standards,
Vol. 55, No. 6, pp. 970-981
June 1967

Development and Construction of an Electromagnetic Near-Field
Synthesizer

NBS Tech. Note 652
May 1974

Development of Electric and Magnetic Near-Field Probes

NBS Tech. Note 658
January 1975

Measurement of RF Power-Absorption in Biological Specimens (10 to
100 MHz)

NBS Tech. Note 687
November 1976

HILL, D. A.

Theory of Near-field Phased Arrays for Electromagnetic Susceptibility
Testing

NBS Tech. Note 1072
February 1984

Electromagnetic Wave Propagation in an Asymmetrical Coal Seam

IEEE Trans. on Antennas and Propagat., Vol. AP-34, No. 2,
pp. 244-247
February 1986

A Numerical Method for Near-Field Array Synthesis

IEEE Trans. on Electromagn. Compat., Vol. EMC-27, No. 4,
pp. 201-211
November 1985

Radio-Wave Propagation from a Forest to a Clearing

Electromagnetics, pp. 217-228
1986

Out-of-Band Response of a Coax-to-Waveguide Adapter

IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 3,
pp. 156-158
August 1986

Electromagnetic Interference (cont.)

HILL, D. A. (cont.)

An Error Bound for Near-Field Array Synthesis

IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 4,
pp. 273-276

November 1986

Effect of a Thin Conducting Sheet on the Fields of a Buried Magnetic
Dipole

Electromagnetics, pp. 71-79
1987

A Circular Array for Plane-Wave Synthesis

IEEE Trans. on Electromagn. Compat., Vol. 30, No. 1, pp. 3-8
February 1988

Electromagnetic Scattering by Buried Objects of Low Contrast

IEEE Trans. on Geoscience and Remote Sensing, Vol. 26, No. 2,
pp. 195-203

March 1988

Electromagnetic Detection of Long Conductors in Tunnels

Proc. Third Tunnel Detection Symp., 12-15 January 1988, Golden,
CO, pp. 518-537
1988

Reflection Coefficient of a Waveguide with Slightly Uneven Walls

IEEE Trans., Microwave Theory and Techniques, Vol 37, No. 1, pp.
244-252

January 1989

Clutter Models for Subsurface Electromagnetic Applications

NISTIR 89-3909

February 1989

HILL, D. A.; KOEPKE, G. H.

A Near-field Array of Yagi-Uda Antennas for Electromagnetic
Susceptibility Testing

NBS Tech. Note 1082

July 1985

IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 4,
pp. 273-276

November 1986

An Array of Dipoles for Plane Wave Synthesis

Proc. 1985 Int. Symp. on Antennas and Propagat., 20-22 August,
1985, Kyoto, Japan, pp. 177-180

1985

Electromagnetic Interference (cont.)

HILL, D. A.; WAIT, J. R.

Propagation Along a Coaxial Cable with a Helical Shield
IEEE Trans. Microwave Theory Technol., Vol. MTT-28, No. 2,
pp. 84-89
February 1980

Electromagnetic Characteristics of a Coaxial Cable with Periodic Slots
IEEE Trans. Electromagn. Compat., Vol. EMC-22, No. 4, pp. 303-307
November 1980

Anomalous Vertical Magnetic Field for Electromagnetic Induction in a
Laterally Varying Thin Conductive Sheet
Radio Science, Vol. 21, No. 4, pp. 617-621
July-August 1986

HUDSON, P. A.; MELQUIST, D. G.; ONDREJKA, A. R.; WERNER, P. E.

A Program to Evaluate/Improve Instrumentation and Test Methods for
Electroexplosive Device Safety Qualification
NBSIR 73-323
June 1973

Completion of the Program to Evaluate/Improve Instrumentation and Test
Methods for Electroexplosive Device Safety Qualification
NBSIR 74-379
June 1974

JESCH, R. L.

Susceptibility of Emergency Vehicle Sirens to External Radiated
Electromagnetic Fields
National Institute of Justice Technology Program, NIJ
Report-200-85
May 1986

A Survey of Triaxial and Mode-Stirred Techniques for Measuring the
Shielding Effectiveness of Connectors and Cables
NBSIR 86-3060
October 1986

Measurement of Shielding Effectiveness of Different Cable and Shielding
Configurations by Mode-Stirred Techniques
NBSIR 87-3076
October 1987

Electromagnetic Interference (cont.)

JESCH, R. L. (cont.)

Measurement of Shielding Effectiveness of Different Cable and Shielding Configurations by Mode-Stirred Techniques

IEEE Trans. on EMC, Vol. 30, pp. 222-228

August 1988

KANDA, M.

Time and Amplitude Statistics for Electromagnetic Noise in Mines

NBSIR 74-378

July 1974

The Characteristics of a Relatively Short Broadband Linear Antenna with Tapered Resistive Loading

Proc. Int. Symp. on Antennas and Propagat. Soc., 20-22 June, 1977
1977

IEEE Antennas and Propagat. Soc. Dig., 20-22 June, 1977,
pp. 230-233
1977

A Relatively Short Cylindrical Broadband Antenna with Tapered Resistive Loading for Picosecond Pulse Measurements

NBSIR 77-861

August 1977

IEEE Trans. Antennas Propagat., Vol. AP-26, No. 3, pp. 439-447
1977

A Broadband Antenna with Tapered Resistive Loading for EMI Measurements

Proc. 1977 IEEE Int. Symp. on Electromagn. Compat., 2-4 August,
1977, Seattle, WA, pp. 13-18

1977

The Characteristics of Broadband, Isotropic Electrical Field and Magnetic Field Probes

NBSIR 77-868

November 1977

Transients in Resistively Loaded Antennas and Their Comparison with Conical Antennas and TEM Horns

NBSIR 78-876

March 1978

Electromagnetic Interference (cont.)

KANDA, M. (cont.)

Analytical and Numerical Techniques for Analyzing an Electrically Short Dipole with a Nonlinear Load

NBSIR 78-898

November 1978

IEEE Antennas and Propagat., Vol. AP-28, No. 1, pp. 71-78

January 1980

The Characteristics of a Traveling-Wave, Linear Antenna with a Nonlinear Load

Dig. Abstract, 1979 IEEE AP Symp.

January 1979

The Time Domain Characteristics of a Traveling Wave Linear Antenna with Linear and Non-Linear Loads

NBSIR 78-892(R)

February 1979

The Effects of Resistive Loading on TEM Horns

NBSIR 79-1601

August 1979

IEEE Antennas and Propagat., Vol. AP-28, No. 1, pp. 71-78

January 1980

IEEE Trans. Electromagn. Compat., Vol. EMC-24, No. 2, pp. 245-255

May 1982

Transients in Resistively Loaded Antennas and Their Comparison with Conical Antennas and a TEM Horn

IEEE Trans. Antennas Propagat., Vol. AP-28, No. 1, pp. 132-136

January 1980

The Time-Domain Characteristics of a Traveling-Wave Linear Antenna with Linear and Nonlinear Parallel Loads

IEEE Trans. Antennas Propagat., Vol. AP-28, No. 2

March 1980

The Characteristics of a Linear Antenna with Tapered Resistive and Capacitive Loading

Proc. IEEE AP Symp., 2-6 June, 1980, Quebec, Canada, Vol. 2,

AP.18-2, pp. 696-699

1980

Electromagnetic Interference (cont.)

KANDA, M. (cont.)

Theoretical and Experimental Investigations of Loading Effects Due to a Perfectly Conducting Rectangular Cylinder in a Transverse Electromagnetic Cell

4th Symp. and Tech. Exhib. on Electromagn. Compat., March, 1981,
Zurich, Switzerland
1981

Theoretical and Experimental Investigations of Electromagnetic Field Distortion Due to a Perfectly Conducting Rectangular Cylinder in a Transverse Electromagnetic Cell

NBS Tech. Note 1028
April 1981

An Electric and Magnetic Field Sensor for Simultaneous Electromagnetic Near-Field Measurements - Theory

NBS Tech. Note 1062
April 1983

An Electromagnetic Near-field Sensor for Simultaneous Electric and Magnetic-Field Measurements

IEEE Trans. Electromagn. Compat., Vol. EMC-26, No. 3, pp. 102-110
August 1984

Transients in a Resistively Loaded Loop Antenna

Proc. 1984 Int. Symp. on Electromagn. Compat., 16-18 October,
1984, Tokyo, Japan, Vol. 1, pp. 286-290
1984

A Methodology for Evaluating Microwave Anechoic Chamber Measurements

Proc. 1985 Symp. and Technical Exhib. on Electromagn. Compat.,
5-7 March, 1985, Zurich, Switzerland, pp. 69-74
1985

KANDA, M.; ADAMS, J. W.

Amplitude Statistics of Electromagnetic Noise in Coal Mines

Proc. 1973 Thru-the-Earth Electromagn. Workshop, 15-17 August,
1973, Colorado School of Mines, Golden, CO, pp. 156-160
1973

URSI Dig., IEEE Trans. Antennas Propagat.
May 1975

Electromagnetic Interference (cont.)

KANDA, M.; DRIVER, L. D.

An Isotropic, Electric-Field Probe with Tapered Resistive Dipoles for Broadband Use, 100 kHz - 18 GHz

Record, 1986 IEEE Int. Symp. on Electromagn. Compat., 16-18 September, 1986, San Diego, CA, pp. 256-261
1986

IEEE Trans. on Microwave Theory and Techn., Vol. MTT-35,
No. 2, pp. 124-130
February 1987

A Broadband, Electric-Field Probe Using Resistively Tapered Dipoles, 100 kHz - 18 GHz

Proc. 1986 IEEE/MTT/S Int. Microwave Symp. Dig., 2-4 June, 1986, Baltimore, MD, pp. 621-624
1986

An Optically Linked Electric and Magnetic Field Sensor for Poynting Vector Measurements in the Near Field of Radiating Sources

CPEM Dig., 7-10 June, 1988, Tsukuba Science City, Japan, pp. 32-33
1988

KANDA, M.; MAY, W. G.

A Millimeter Wave Isolator Containing a Semiconductor Rod in a Circular Waveguide

IEEE Trans. Instrum. Meas., No. IM-24, No. 3, pp. 264-266
September 1975

KANDA, M.; NAHMAN, N. S.

Standards for Measurement of Electromagnetic Fields

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985, Tampa, FL, pp. 20-23
1985

KANDA, M.; ORR, R. D.

A Radio-frequency Power Delivery System: Procedures for Error Analysis and Self-Calibration

NBS Tech. Note 1083
August 1985

Near-Field Gain of a Horn and an Open-Ended Waveguide: Comparison Between Theory and Experiment

Proc. 5th Int. Conf. on Electromagn. Compat., 29 September-2 October, 1986, University of York, England, pp. 137-145
1986

Electromagnetic Interference (cont.)

KANDA, M.; ORR, R. D. (cont.)

Generation of Standard Electromagnetic Fields in a TEM Cell
NBS Tech. Note 1319
August 1988

KANDA, M.; RIES, F. X.

Time Domain Sensors for Radiated Impulsive Measurements
Proc. IEEE 1982 Int. Symp. on Electromagn. Compat., 8-10
September, 1982, Santa Clara, CA, pp. 296-301
1982

IEEE Trans. Antennas Propagat., Vol. AP-31, No. 3, pp. 438-444
May 1983

KANDA, M.; WYSS, J. C.

Evaluation of Off-Axis Measurements Performed in an Anechoic Chamber
NBS Tech. Note 1305
October 1986

KANDA, M.; ADAMS, J. W.; BENSEMA, W. D.

Electromagnetic Noise in McElroy Mine
NBSIR 74-389
June 1974

KANDA, M.; RANDA, J. P.; NAHMAN, N. S.

Possible Estimation Methodologies for Electromagnetic Field
Distributions in Complex Environments
NBS Tech. Note 1081
March 1985

KANDA, M.; RIES, F. X.; BELSHER, D. R.

A Broadband Isotropic, Real-Time, Electric Field Sensor (BIRES) Using
Resistively Loaded Dipoles
NBSIR 79-1622
December 1979

KANDA, M.; RIES, F. X.; DRIVER, L. D.; ORR, R. D.

Design Considerations for Broadband Magnetic-Field Sensors
Dig., 1982 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1982, Boulder, CO, pp. P-11 through P-13
1982

An Electric and Magnetic Field Sensor Concept for Simultaneous
Near-Field Electromagnetic Components When Using TEM Cells

Proc. 1983 Electromagn. Compat. Symp. and Exhib., 8-10 March,
1983, Zurich, Switzerland, pp. 263-266
1983

Electromagnetic Interference (cont.)

KANDA, M.; LARSEN, E. B.; BORSERO, M.; GALLIANO, P. G.; YODOSHIMA, I.;
NAHMAN, N. S.

Standards for Electromagnetic Fields Measurements
Special Issue of Proc. IEEE on Radio Meas. and Standards,
Vol. 94, No. 1, pp. 120-128
January 1986

KOEPKE, G. H.; MA, M. T.

A New Method for Determining the Emission Characteristics of an Unknown
Interference Source

Proc. IEEE 1982 Int. Symp. on Electromagn. Compat.,
8-10 September, 1982, Santa Clara, CA, pp. 151-156
1982

Proc. 1983 Electromagn. Compat. Symp. and Exhib., 8-10 March,
1983, Zurich, Switzerland, pp. 263-266
1983

KOEPKE, G. H.; MA, M. T.; BENSEMA, W. D.

Theory and Measurements of Radiated Emissions Using a TEM Cell
NIST Tech Note 1326
January 1989

Implementation of an Automated System for Measuring Radiated Emissions
Using a TEM cell

IEEE Trans. on Instrum. and Meas., Vol. 38, No. 2, pp. 473-479
April 1989

KUFFEL, J.; MALEWSKI, R.; VAN HEESWIJK, R.; LAWTON, R. A.

Dynamic Performance of Digital Recorders Used for Monitoring
High-Voltage Impulse Tests

Proc. IEEE Instrum. and Meas. Technol. Conf., 25-27 March, 1986,
Boulder, CO, Vol. IM-35, No. 4, pp. 591-595
1986

LARSEN, E. B.

Calibration of Radio Receivers to Measure Broadband Interference
NBSIR 73-335
September 1973

Background and Present Status of RF Probe Development at NBS

Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981

Calibration and Meaning of Antenna Factor and Gain for EMI Antennas

Interference Technology Engineers' Master (ITEM 1986), pp. 113-335
1986

Electromagnetic Interference (cont.)

LARSEN, E. B.; ANDREWS, J. R.

Using Fiber Optics in A Broadband, Sensitive, Isotropic Antenna -
15 KHz to 150 MHz

Proc. 1976 IEEE Int. Symp. on Electromagn. Compat., 13-15 July,
1976, Washington, DC
1976

LARSEN, E. B.; CRUZ, J. E.

E&H Fields in Transmission Lines and Coils for Susceptibility Testing,
Probe Calibration, and RF Exposure Chambers

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985,
Tampa, FL, p. 199
1985

LARSEN, E. B.; RIES, F. X.

Design and Calibration of the NBS Isotropic Electric-Field Monitor
(EFM-5), 0.2 to 1000 MHz

NBS Tech. Note 1033
March 1981

LARSEN, E. B.; SHAFER, J. F.

Surveys of Electromagnetic Field Intensities Near Representative
Higher-Power FAA Transmitting Antennas

FAA-RD-77
December 1977

LARSEN, E. B.; ANDREWS, J. R.; BALDWIN, E. E.

Sensitive Isotropic Antenna with Fiber-Optic Link to a Conventional
Receiver

NBSIR 75-819
September 1976

LARSEN, E. B.; EHRET, R. L.; CAMELL, D. G.; KOEPKE, G. H.

Calibration of Antenna Factor at a Ground Screen Field Site Using an
Automatic Network Analyzer

Proc. IEEE 1989 Nat. Symp. on Electromagn. Compat., 23-25 May
1989, Denver, CO, pp. 19-24
1989

LAWTON, R. A.

A New Standard for Electric Field Strength

IEEE Trans. Instrum. Meas., Vol. IM-19, pp. 45-51
February 1970

Electromagnetic Interference (cont.)

LAWTON, R. A.; ONDREJKA, A. R.

Antennas and the Associated Time Domain Range for the Measurement of Impulsive Fields

NBS Tech. Note 1008

November 1978

LIU, B. H.; CHANG, D. C.; MA, M. T.

Eigenmodes and the Composite Quality Factor of a Reverberating Chamber

NBS Tech. Note 1066

August 1983

Design Consideration of Reverberating Chambers for Electromagnetic Interference Measurements

Record, IEEE 1983 Int. Symp. on Electromagn. Compat., 23-25

August, 1983, Arlington, VA, pp. 508-512

1983

MA, M. T.

A Theoretical Study of Unbalanced Ground Effects on Receiving Dipoles

NBSIR 79-1605

May 1979

Arrays of Discrete Elements

Antenna Engineering Handbook, Chapter 3, R. C. Johnson and H. Jasik, McGraw-Hill Book Co.

January 1984

Error Analysis of Radiation Characteristics of an Unknown Interference Source Based on Power Measurements

Proc. 1984 Int. Symp. on Electromagn. Compat., 16-18 October, 1984, Tokyo, Japan, pp. 39-44

1984

Measurements of Unintentional Electromagnetic Emissions

Proc. IEEE Spec. Issue on Radio Meas. Methods and Standards, Vol. 74, No. 1, pp. 110-111

January 1986

Measuring Electromagnetic Interference, Part II; Reverberating Chambers Test and Measurement World, pp. 74-90

May 1986

Shielding Effectiveness Measuring Using an Apertured TEM Cell in a Reverberation Chamber

IEEE Int. Symp. on Electromagn. Compat., August 1986, San Diego, CA

1986

Electromagnetic Interference (cont.)

MA, M. T. (cont.)

Characterization of Unknown RF Leakage Sources: Problems, Solutions and Practical Implications

URSI XXIInd General Assembly, 24 August - 2 September, 1987,
Tel Aviv, Israel
1987

Understanding Reverberating Chambers as an Alternative Facility for EMC Testing

J. of Electromagn. Waves and Appl., Vol. 2, pp. 339-351
March\April 1988

Theory and Measurements of Unintentional Radiators

CPEM Dig., 7-10 June, 1988, Tsukuba Science City, Japan, pp. 30-31
1988

How High is the Level of Electromagnetic Fields Radiated by an ESD?

Proc. 8th Int'l. Symp. & Tech. Exhibition on EMC, 7-9 March 1989,
Zurich, Switzerland, pp. 361-365
1989

MA, M. T.; ARTHUR, M. G.

A Study of Distribution of Electromagnetic Fields Inside Buildings with Apertures Excited by an External Source

NBSIR 82-1659
February 1982

MA, M. T.; BENSEMA, W. D.

Automated TEM Cell for Measuring Unintentional EM Emissions

Proc. EMC Expo 1987, Int. Conf. on Electromagn. Compat., 19-21
May, 1987, San Diego, CA, pp. T11.1 - T11.12
1987

MA, M. T.; FITZGERRELL, R. G.

Design of a Van-Top Low-Profile HF Antenna

OTR-77-131
October 1977

MA, M. T.; KANDA, M.

Electromagnetic Compatibility and Interference Metrology

NBS Tech. Note 1099
July 1986

MA, M. T.; KOEPKE, G. H.

A Method to Quantify Radiation Characteristics of an Unknown Interference Source

NBS Tech. Note 1059
October 1982

Electromagnetic Interference (cont.)

MA, M. T.; KOEPKE, G. H. (cont.)

Uncertainties in Extracting Radiation Parameters for an Unknown
Interference Source Based on Power and Phase Measurements

NBS Tech. Note 1064

June 1983

MA, M. T.; WILSON, P. F.; CHANG, D. C.

Excitation of a TEM Cell by a Vertical Electric Hertzian Dipole

NBS Tech. Note 1037

March 1981

MA, M. T.; CHANG, D. C.; SREENIVASIAH, I.

A Method of Determining the Emission and Susceptibility Levels of
Electrically Small Objects Using a TEM Cell

NBS Tech. Note 1040

April 1981

MA, M. T.; KANDA, M.; CRAWFORD, M. L.; LARSEN, E. B.

A Review of Electromagnetic Compatibility/Interference Measurement
Methodologies

Proc. IEEE, Vol. 73, No. 3, pp. 388-411

March 1985

MARTZLOFF, F. D.; WILSON, P. F.

Fast Transient Tests - Trivial or Terminal Pursuit?

Proc. 7th Int. Zurich Symp. and Technical Exhib. on Electromagn.
Compat., 3-5 March, 1987, Zurich, Switzerland, pp. 283-288

1987

MASTERSON, K. D.

A Photonic Electric Field Probe for Frequencies up to 2 GHz

Proc. Soc. Photo-Optical Instrumentation Engineers (SPIE),
Vol. 720, p. 100

1986

MASTERSON, K. D.; DRIVER, L. D.

A Broadband, Isotropic, Photonic Electric Field Probe for Measurements
from 10 kHz to Above 1 GHz

Proc. High Bandwidth Analog Applications of Photonics II, SPIE -
Int. Soc. of Optical Engineers, Vol. 987, 8-9 September, 1988,
Boston, MA, pp. 107-118

1989

Electromagnetic Interference (cont.)

MASTERSON, K. D.; DRIVER, L. D.; KANDA, M.

Photonic Probes for the Measurement of Electromagnetic Fields Over Broad Bandwidths

Proc. IEEE 1989 Nat. Symp. on Electromagn. Compat., 23-25 May 1989, Denver, CO, pp. 1-6
1989

MILLER, C. K. S.

EMI - A Problem of Growing Concern

Report of the 63rd Nat. Conf. on Weights and Measures
NBS SP 532
1978

Challenges of EMI Measurements

Proc. Nat. Conf. of Standards Laboratories, 22-25 September, 1980, pp. 8-1 through 8-17
1980

The EMI Measurement Challenge

Proc. 1983 Meas. Sci. Conf., 20-21 January, 1983, Palo Alto, CA, pp. 189-197
1983

NAHMAN, N. S.

Miniature Superconductive Coaxial Transmission Lines

Proc. IEEE, Vol. 61, pp. 76-79
January 1973

NAHMAN, N. S.; KANDA, M.; LARSEN, E. B.; CRAWFORD, M. L.

Methodology for Standard Electromagnetic Field Measurements

IEEE Trans. Instrum. Meas., Vol. IM-34, No. 4, pp. 490-503
December 1985

NEWELL, A. C.; CRAWFORD, M. L.

Planar Near-Field Measurements on High Performance Array Antennas

NBSIR 74-380
July 1974

ONDREJKA, A. R.; ADAMS, J. W.

Shielding Effectiveness (SE) Measurement Techniques

Proc. 1984 IEEE Nat. Symp. on Electromagn. Compat., 24-26 April, 1984, San Antonio, TX, pp. 249-256
1984

Proc. 1984 EMI/RFI Technical Conf., The Soc. of Plastics Engineers, Inc., 18-20 June, 1984, Chicago, IL, pp. 19-26
1984

Electromagnetic Interference (cont.)

RANDA, J. P.; KANDA, M.

Multiple-Source, Multiple-Frequency Error of an Electric Field Meter
IEEE Trans. Antennas Propagat., Vol. AP-33, No. 1, pp. 2-9
January 1985

A Directional Scanning Technique for Characterization of Complex
Electromagnetic Environments

Dig., 1985 IEEE/APS Symp. on Antennas and Propagat., 17-21 June,
1985, University of British Columbia, Vancouver, B. C., Canada,
pp. 521-524
1985

Directional Scanning of Complex Electromagnetic Environments

Proc. 1985 Int. Symp. on Antennas and Propagat., 20-22 August,
1985, Kyoto, Japan, pp. 899-902
1985

A Finite-element Action Approach to the Characterization of Complex
Electromagnetic Environments

Proc. 1985 Int. Symp. on Antennas and EM Theory, 26-28 August,
1985, Beijing, China, pp. 48-53
1985

High Frequency Errors of an Electric-field-meter in Complicated
Environments

Record, IEEE 1985 Int. Symp. on Electromagn. Compat., 20-22
August, 1985, Wakefield, MA, pp. 618-621
1985

A Lattice Approach to Complex Electromagnetic Environments

Proc. 1986 IEEE Int. Symp. on Electromagn. Compat., September,
1986, San Diego, CA, pp. 329-331
1986

A Lattice Approach to Volumes Irradiated by Unknown Sources

NBS Tech. Note 1303
October 1986

A Lattice Approach to Environments Irradiated by Unknown Sources

Proc. 7th Int. Electromagn. Compat. Symp., March 1987, Zurich,
Switzerland, pp. 191-195
1987

A New Approach to Volumes Irradiated by Unknown Sources

IEEE Trans. on Electromagn. Compat., pp. 273-281
November 1987

Electromagnetic Interference (cont.)

RANDA, J. P.; KANDA, M.; MELQUIST, D. G.

Possible Designs for Electric-Field Strength-Probes for Millimeter Waves

NBSIR 88-3084

February 1988

RANDA, J. P.; KANDA, M.; MELQUIST, D. G.; ORR, R. D.

Thermo-optic Designs for Microwave and Millimeter-wave Electric-Field Probes

Proc. IEEE Symp. on Electromagn. Compt., 23-25 May 1989, Denver, CO, pp. 7-11
1989

RANDA, J. P.; KANDA, M.; MELQUIST, D. G.; SEGA, R. M.; NORGARD, J. D.

High Frequency Electric Field Probe Development

Proc. EMC EXPO '88, Int. Conf. on Electromagn. Compat.,
10-12 May, 1988, Washington, DC, pp. T15.31-T15.37
1988

REEVE, G. R.

Calibration of Impulse Noise Generators

NBSIR 73-343

October 1973

A Standard Percent Modulation Measurement System

Dig. 1976 CPEM Conf., pp. 165-166
June 1976

Synthesized Isotropic Pattern Antennas for EM Field Measurements

Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat.,
18-20 August, 1981, Boulder, CO
1981

Alternate EMI Measurement Techniques for Microelectronic Circuits

Proc. EMC EXPO 1986, Int. Conf. on Electromagn. Compat., 16-19
June, 1986, Washington, DC, pp. T26.1-T26.4
1986

Proficiency Testing for MIL-STD 462 NVLAP Laboratories

Dig., EMC EXPO '88, 10-12 May, 1988, Washington, DC, T33.13 -
T33.15

September 1988

REEVE, G. R.; WAINWRIGHT, A. E.

A Frequency Tracking, Tuned, Receiving Monopole

Record, IEEE/APS Symp., June, 1981
1981

Electromagnetic Interference (cont.)

REPJAR, A. G.; NEWELL, A. C.; TAMURA, D. T.

Extrapolation Range Measurements for Determining Antenna Gain and Polarization

NBS Tech. Note 1311

August 1987

RIES, F. X.; MILLER, C. K. S.

Influence of Electromagnetic Interference on Electronic Devices Bulletin

OIML Seminar

December 1981

SCOTT, W. W., Jr.; ADAMS, J. W.; BENSEMA, W. D.; DOBROSKI, H.

Electromagnetic Noise in Lucky Friday Mine

NBSIR 74-391

October 1974

SHAFFER, J. F.

Field Strength Levels in Vehicles Resulting from Communications Transmitters

National Institute of Justice Report, 200-83

June 1984

SIMPSON, P. A.

Broadband Pulsed/CW Calibration Signal Standard for Field Intensity Meter (FIM) Receivers

NBSIR 74-371

June 1974

SREENIVASIAH, I.; CHANG, D. C.

Variational Expression for the Scattering Matrix of a Coaxial Line Step Discontinuity and its Application to an Over Moded Coaxial TEM Cell

NBSIR 79-1606

May 1979

SREENIVASIAH, I.; CHANG, D. C.; MA, M. T.

Characterization of Electrically Small Radiating Sources by Tests Inside a Transmission Line Cell

NBS Tech. Note 1017

March 1980

A Critical Study of Emission and Susceptibility Levels of Electrically Small Objects from Tests Inside a TEM Cell

Record, "EMC '81," 1981 IEEE Int. Symp. on Electromagn. Compat., 18-20 August, 1981, Boulder, CO

1981

Electromagnetic Interference (cont.)

SREENIVASIAH, I.; CHANG, D. C.; MA, M. T. (cont.)

Emission Characteristics of Electrically Small Radiating Sources from Tests Inside a TEM Cell

IEEE Trans. Electromagn. Compat., Vol. EMC-23, No. 3,

pp. 113-121

August 1981

STUBENRAUCH, C. F.; SPIESS, W.; GALLIANO, P. G.; BABJI, T.

International Intercomparison of Electric Field Strength at 100 MHz

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 235-237

March 1983

TAGGART, H. E.

Methods of Suppressing Automotive Interference

NBS SP 480-44

November 1981

Radiated EMI Instrumentation Errors

EMC Technology Magazine, Vol. 1, No. 4, pp. 26-35

October 1982

TIPPET, J. C.; CHANG, D. C.

Radiation Characteristics of Dipole Sources Located Inside a Rectangular, Coaxial Transmission Line

NBSIR 75-829

January 1976

A New Approximation for the Capacitance of a Rectangular, Coaxial, Strip Transmission Line

IEEE Trans. Microwave Theory Technol., pp. 602-604

September 1976

Higher Order Modes in Rectangular Coaxial Line with Infinitely Thin Inner Conductor

NBSIR 78-873

March 1978

Characteristic Impedance of a Rectangular Coaxial Line With Offset Inner Conductor

IEEE Trans. Microwave Theory Technol., Vol. MTT-26, No. 11,

pp. 876-883

November 1978

Dispersion and Attenuation Characteristics of Modes in a TEM Cell with a Lossy Dielectric Slab

NBSIR 79-1615

July 1979

Electromagnetic Interference (cont.)

TIPPET, J. C.; CHANG, D. C.; CRAWFORD, M. L.

An Analytical and Experimental Determination of the Cutoff Frequencies of Higher-Order TE Modes in a TEM Cell

NBSIR 76-841

June 1976,

VANZURA, E. J.

Automated System for Electromagnetic Field Generation and Immunity Testing

Proc. 1988 IEEE Instrum./Meas. Technol. Conf., 19-22 April, 1988, San Diego, CA, pp. 3-10

1988

VANZURA, E. J.; ADAMS, J. W.

Generating Constant Electromagnetic Fields Inside a Partially-Loaded Shielded Room

Test and Meas. World, pp. 72-83

November 1987

WACKER, P. F.

Quantifying Hazardous Microwave Fields: Analysis

Proc. 1969 Symp. on Biological Effects and Health Implications of Microwave Radiation, 17-19 September, 1969, U.S. Department of Health Education, and Welfare, Rockville, MD. Richmond, VA, BRH/DBE 70-2, pp. 197-203

June 1970

WACKER, P. F.; BOWMAN, R. R.

Quantifying Hazardous Electromagnetic Fields: Scientific Basis and Practical Considerations

IEEE Trans. Microwave Theory Technol., Vol. MTT-19, No. 22

February 1971

WILSON, P. F.

A Comparison Between Near-Field Shielding Effectiveness Measurements Based on Coaxial Dipoles and on Electrically Small Apertures

IEEE Trans. on Electromagn. Compat., Vol. 30, No. 1, pp. 23-28

February 1988

WILSON, P. F.; CHANG, D. C.

Mode Coupling by a Longitudinal Slot for a Class of Planar Waveguiding Structures: Part I - Theory

IEEE Trans. on Microwave Theory and Techniques, Vol. MTT-33, No. 10, pp. 981-987

October 1985

Electromagnetic Interference (cont.)

WILSON, P. F.; CHANG, D. C. (cont.)

Mode Coupling by a Longitudinal Slot for a Class of Planar Waveguiding Structures: Part II - Applications

IEEE Trans. on Microwave Theory and Techniques, Vol. MTT-33,

No. 10, pp. 988-993

October 1985

WILSON, P. F.; MA, M. T.

Small Aperture Analysis of the Dual TEM Cell

Proc. 1984 IEEE Nat. Symp. on Electromagn. Compat., 24-26 April, 1984, San Antonio, TX, pp. 365-369

1984

Some Problems Associated with Interpreting Shielding Effectiveness Measurement Results

Proc. 1984 EMI/RFI Technical Conf., The Soc. of Plastics Eng., Inc., 18-20 June, 1984, Chicago, IL, pp. 9-18

1984

Small Aperture Analysis of the Dual TEM Cell and an Investigation of Test Object Scattering in a Single TEM Cell

NBS Tech. Note 1076

October 1984

Small Obstacle Loading in a TEM Cell

Proc. 1984 Int. Symp. on Electromagn. Compat., 16-18 October, 1984, Tokyo, Japan, pp. 30-35

1984

Input Impedance of a Probe Antenna in a TEM Cell

IEEE Trans. Electromagn. Compat., Vol. EMC-26, No. 4, pp. 154-161

November 1984

Factors Influencing Material Shielding Effectiveness Measurements

Record, IEEE 1985 Int. Symp. on Electromagn. Compat.,

20-22 August, 1985, Wakefield, MA, pp. 29-33

1985

Shielding Effectiveness Measurements in a Dual TEM Cell

IEEE Trans. Electromagn. Compat., Vol. EMC-27, No. 3, pp. 137-142

August 1985

Measurements of Electromagnetic Shielding Capability of Materials

Proc. IEEE Regional Conf. and Exhib. on Electromagn. Compat., January 1986, Vol. 74, No. 1, pp. 112-115

1986

Electromagnetic Interference (cont.)

WILSON, P. F.; MA, M. T. (cont.)

Electromagnetic Shielding Effectiveness: Measurement Techniques and Interpretations

1986 IEEE Regional Conf. and Exhib. on Electromagn. Compat.,
6 February, 1986, Anaheim, CA, pp. 1-14
1986

A Study of Techniques for Measuring the Electromagnetic Shielding Effectiveness of Materials

NBS Tech. Note 1095
May 1986

Methods for Measuring the Near-Field and Far-Field Shielding Effectiveness of Materials

Proc. EMC Expo 1986 Int. Conf. on Electromagn. Compat.,
16-19 June, 1986, Washington, DC, pp. #T28.1-T28.6
1986

Simple Approximate Expressions for Higher-Order Mode Cut Off and Resonant Frequencies in TEM Cells

IEEE Trans. on Electromagn. Compat., Vol. EMC-28, No. 3,
pp. 125-130
August 1986

Shielding Effectiveness Measurements Using an Apertured TEM Cell in a Reverberation Chamber

Record, 1986 IEEE Int. Symp. on Electromagn. Compat.,
16-18 September, 1986, San Diego, CA, pp. 265-269
1986

Techniques for Measuring the Shielding Effectiveness of Materials

Proc. 7th Int. Symp. and Exhib. on Electromagn. Compat.,
3-5 March, 1987, Zurich, Switzerland, pp. 547-552
1987

WILSON, P. F.; MA, M. T.

Techniques for Measuring the Electromagnetic Shielding Effectiveness of Materials: Part II -- Near-Field Source Simulation

IEEE Trans. on Electromagn. Compat., Vol. 30, No. 3, pp. 251-259
August 1988

WILSON, P. F.; CHANG, D. C.; MA, M. T.

Input Impedance of a Probe Antenna Exciting a TEM Cell

NBS Tech. Note 1054
April 1982

Electromagnetic Interference (cont.)

WILSON, P. F.; MA, M. T.; ADAMS, J. W.

Techniques for Measuring the Electromagnetic Shielding Effectiveness of Materials: Part I -- Far-Field Source Simulation

IEEE Trans. on Electromagn. Compat., Vol. 30, No. 3, pp. 239-250
August 1988

WILSON, P. F.; MA, M. T.; ONDREJKA, A. R.

Fields Radiated by Electrostatic Discharges

Proc. IEEE Int. Symp. on Electromagn. Compat., 2-4 August, 1988,
Seattle, WA, pp. 179-183
1988

WILSON, P. F.; CHANG, D. C.; MA, M. T.; CRAWFORD, M. L.

Theoretical and Experimental Analysis of Coupling Characteristics of Dual TEM Cells

Record, IEEE 1983 Int. Symp. on Electromagn. Compat.,
23-25 August, 1983, Arlington, VA, pp. 513-517
1983

WILSON, P. F.; ONDREJKA, A. R.; MA, M. T.; LADBURY, J. M.

On the Electromagnetic Fields Radiated From Electrostatic Discharges - Theory and Experiment

NBS Tech. Note 1314
February 1988

WU, D. I.; CHANG, D. C.

An Investigation of a Ray-Mode Representation of the Green's Function in a Rectangular Cavity

NBS Tech. Note 1312
September 1987

The Effect of a Large Rotating Scatterer in a Rectangular Cavity

NBS Tech. Note 1317
March 1988

A Hybrid Representation of the Green's Function in an Over-Moded Rectangular Cavity

IEEE Trans. on Microwave Theory and Techniques, Vol. 36, No. 9,
pp. 1334-1342
September 1988

The Effect of an Electrically Large Stirrer in a Mode-Stirred Chamber

IEEE Trans. on Electromagn. Compat., Vol. 31, No. 2, pp. 164-169
May 1989

Electromagnetic Interference (cont.)

WYSS, J. C.; SHEERAN, S.

A Passive, Optical Modulator and Link for Antennas

IEEE J. of Lightwave Technol., Vol. LT-3, No. 2, pp. 316-321
April 1985

WYSS, J. C.; KANDA, M.; MELQUIST, D. G.; ONDREJKA, A. R.

Optical Modulator and Link for Broadband Antennas

Dig., 1982 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1982, Boulder, CO, pp. P-16 through P-17
1982

MICROWAVE METROLOGY

ADAIR, R. T.

A Precision 30 MHz Waveguide-Below-Cutoff Attenuator with an Absolute Electronic Readout, NBS Model XII

NBSIR 76-833

January 1976

ADAIR, R. T.; RUSSELL, D. H.

A Calibration Service for 30 MHz Attenuation and Phase Shift

SP-250-32

April 1988

ADAIR, R. T.; REEVE, G. R.; GATTERER, L. E.

Millimeter Wave Standards: An Emerging Need

Proc. IEEE Instrum. and Meas. Techn. Conf., 25-27 March, 1986,
Boulder, CO, Vol. IM-35, No. 4, pp. 376-382

1986

The Expanding Need for Microwave and Millimeter Wave Calibration Services

NCSL Newsletter, Vol. 27, No. 1, pp. 21-31

January 1987

AGY, D. L.; NELSON, R. E.

An Immittance Transcomparator

1970 Annual Precision Measurement Association Metrology Conf.

(3rd), 17-18 June, 1970, Gaithersburg, MD, Vol. 1, pp. 147-154

1970

ALLRED, C. M.; MANNEY, C. H.

Self-Calibration of Complex Ratio Measuring System

Proc. 1973 Int. Conf. Meas. and Instrum., 17-23 June, 1973,

Dresden, Germany, ACTA IMEKO 1, pp. 157-166

1973

The Calibration and Use of Directional Couplers Without Standards

IEEE Trans. Instrum. Meas., Vol. IM-25, pp. 84-89

March 1976

BEATTY, R. W.

Impedance Measurements and Standards for Uniconductor Waveguide

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,

Vol. 55, No. 6, pp. 933-941

June 1967

CLAGUE; F. R.

The NIST Automated Coaxial Microwave Power Standard

Proc. 1989 Measurement Science Conf., 26-27 January, 1989,

Anaheim, CA, pp. 1C-1 - 1C-14

1989

Microwave Metrology (cont.)

CLAGUE, F. R.; LARSEN, N. T.

A Transient Response Error in Microwave Power Meters Using Thermistor Detectors

28th ARFTG Conf. Dig., 4-5 December, 1986, St. Petersburg Beach, FL, pp. 79-89
1986

COOK, C. C.; ALLRED, C. M.

An Excitation System for Piston Attenuators

IEEE Trans. Instrum. Meas., Vol. IM-20, pp. 10-16
February 1971

COUNAS, G. J.; YATES, B. C.

Measurement of Adapter Loss, Mismatch, and Efficiency Using the Dual Six-port

NBSIR 88-3095
July 1988

CRAWFORD, M. L.; SMART, G. R.

New Coaxial Thermistor Mounts for use as Precision Transfer Standards
Proc. 1970 Instrument Soc. of America Conf., 26-29 October, 1970, Philadelphia, PA, N708-70, pp. 1-6
1970

DRIVER, L. D.; RIES, F. X.; REBULDELA, G.

NBS RF Voltage Comparator
NBSIR 78-871
December 1978

EBBESEN, H.; ENGEN, G. F.

Singularities in Calibration of Six-port Network Analyzers
1981 IEEE MTT-S Int. Microwave Symp. Dig., p. 149
1981

ELLERBRUCH, D. A.

UHF and Microwave Phase-Shift Measurements
Proc. IEEE, Special Issue on Radio Meas. Methods and Standards, Vol. 55, No. 6, pp. 960-969
June 1967

ENGEN, G. F.

An Introduction to the Description and Evaluation of Microwave Systems Using Terminal Invariant Parameters
NBS MN 112
October 1969

A New Method of Characterizing Amplifier Noise Performance
IEEE Trans. Instrum. Meas., Vol. IM-19, pp. 344-349
November 1970

Microwave Metrology (cont.)

ENGEN, G. F. (cont.)

An Extension to the Sliding Short Method of Connector and Adaptor Evaluation

NBS J. Res. Vol. 75C, pp. 177-183
1971

Power Equations: A New Concept in the Description and Evaluation of Microwave Systems

IEEE Trans. Instrum. Meas., Vol. IM-20, pp. 49-57
February 1971

Theorem Giving Limits for S_{22} When S_{11} and the Two-Port Efficiency are Known

IEEE Trans. Instrum. Meas., Vol. IM-20, p. 78
February 1971

Theory of UHF and Microwave Measurements Using the Power Equation Concept

NBS Tech. Note 637
April 1973

Mismatch Considerations in Evaluating Amplifier Noise Performance

IEEE Trans. Instrum. Meas., Vol. IM-22, pp. 274-278
September 1973

Calibration of an Arbitrary Six-Port Junction for Measurement of Active and Passive Circuit Parameters

IEEE Trans. Instrum. Meas., Vol. IM-22, pp. 295-299
December 1973

Comments on Practical Analysis of Reflectometers and Power Equation Concepts

IEEE Trans. Instrum. Meas., Vol. IM-23, pp. 104-105
March 1974

An Alternative Calibration Technique for Automated Network Analyzers with Application to Adapter Evaluation

Proc. 1974 IEEE S-MTT Int. Microwave Symp., 12-14 June, 1974, Atlanta, GA, Microwave Symposium Digest, pp. 261-262
1974

Calibration Technique for Automated Network Analyzers with Application to Adapter Evaluation

IEEE Trans. Microwave Theory Tech. Part II, 1974 Symp. Issue, Vol. MTT-22, pp. 1255-1260.
December 1974

Microwave Metrology (cont.)

ENGEN, G. F. (cont.)

Automated Calibration of Directional-Coupler-Bolometer-Mount Assemblies
Proc. 1975 IEEE Microwave Theory and Technique Symp. Int.,
12-14 May, 1975, Palo Alto, CA, pp. 98-99
1975

IEEE Trans. Microwave Theory Techn., Vol. MTT-23, pp. 984-990
December 1975

Measurement of Complex Microwave Circuit Parameters Using Only Power
Detectors

Proc. 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1976, Boulder, CO, p. 171
1976

Determination of Microwave Phase and Amplitude from Power Measurements
IEEE Trans. Instrum. Meas., Vol. IM-25, pp. 414-418
December 1976

An Improved Circuit for Implementing the Six-Port Technique of
Microwave Measurements

1977 IEEE-MTT-S Int. Microwave Symp., 21-23 June, 1977,
San Diego, CA, pp. 53-55
1977

IEEE Trans. Microwave Theory Techn., Vol. MTT-25, pp. 1080-1083
December 1977

The Six-Port Reflectometer: An Alternative Network Analyzer

Proc. 1977 IEEE-MTT-S Int. Microwave Symp., 21-23 June, 1977,
San Diego, CA, pp. 44-46
1977

Design Considerations for Automatic Network Analyzers Based on the
Six-Port Concept

Proc. IEE Euromas 1977 Conf., 1-9 September, 1977, Sussex,
England; London, England, pp. 110-111
1977

Instrumentation: Six Ports Simplify Network

Microwave Syst. News, pp. 54-55
January 1978

Advances in Microwave Measurement Science

Proc. IEEE, Vol. 66, pp. 374-384
April 1978

Microwave Metrology (cont.)

ENGEN, G. F. (cont.)

The Six-Port Measurement Technique: A Status Report
Microwave J., Vol. 21, pp. 18,21-22,24,84,87,89
May 1978

Calibrating the Six-port Reflectometer by Means of Sliding Terminations
IEEE Trans. Microwave Theory Techn., Vol. MTT-26, pp. 951-957
December 1978

A Least Squares Solution for Use in 6-port Measurement Technique
IEEE Trans. Microwave Theory Techn., Vol. MTT-28, No. 12
December 1980

Redundancy: A Monitor of Six-Port Performance
Dig., IEEE 1983 Colloquium on Advances in S-Parameter Measurement
at Microwave Lengths, 23 May, 1983, Savoy Place, London, England,
No. 1983/53, pp. 4-1 through 4-2
1983

In Search of a More Realistic Accuracy Statement for Microwave
Metrology
Dig., 27th Automatic RF Techniques Group, 5-6 June, 1986,
Baltimore, MD, pp. 181-183
1986

On-Line Accuracy Assessment for the Dual Six-Port ANA: Background and
Theory
Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD, p. 236
1986

IEEE Trans. on Instrum. and Meas., Vol. IM-36, No. 2, pp. 501-506
June 1987

ENGEN, G. F.; HOER, C. A.

Application of an 'Arbitrary' 6-Port Junction to Power Measurement
Problems
Proc. 1972 Conf. on Precision Electromagn. Meas., 26-29 June,
1972, Boulder, CO, pp. 100-101
1972

IEEE Trans. Instrum. Meas., Vol. IM-21, pp. 470-474
November 1972

Through-Load-Delay: An Improved Technique for Calibrating the Dual
Six-port Automatic Network Analyzer
Int. Microwave Symp. Dig., Orlando, FL, p. 53
1979

ENGEN, G. F.; HUDSON, P. A.

International Intercomparison of Power Standards at 3 GHz

IEEE Trans. Microwave Theory Techn., Vol. MTT-19, pp. 411-413

April 1971

ENGEN, G. F.; HOER, C. A.; SPECIALE, R. A.

The Application of "Through-Short-Delay" to the Calibration of the Dual Six-port

IEEE Int. Microwave Symp. Dig., pp. 184-185

1978

ESTIN, A. J.

A Calculable Microwave Attenuation Standard: The High Q Cavity

Proc. 1972 Conf. on Precision Electromagn. Meas., 26-29 June, 1972, Boulder, CO, pp. 100-101

1972

Scattering Parameters of SMA Coaxial Connectors

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 4, pp. 329-334

1976

FOOTE, W. J.; HUNTER, R. D.

Improved Gearing for Rotary-Vane Attenuators

Rev. Scientific Instrum., Vol. 43, No. 7, pp. 1042-1043

July 1972

GINLEY, R. A.; ALLRED, C. M.

1.25 MHz Attenuation Measurement System

Proc. IEEE Instrum. and Meas. Techn. Conf., 25-27 March, 1986, Boulder, CO, Vol. IM-35, No. 4, pp. 463-466

1986

HILL, D. A.; WAIT, J. R.

Propagation Along a Coaxial Cable with a Helical Shield

IEEE Trans. Microwave Theory Techn., Vol. MTT-28, No. 2, pp. 84-89

February 1980

Electromagnetic Theory of the Loosely Braided Coaxial Cable: Part II - Numerical Results

IEEE Trans. Microwave Theory Techn., Vol. MTT-28, No. 4, pp. 326-331

April 1980

Microwave Metrology (cont.)

HOER, C. A.

The Six-Port Coupler; A New Approach to Measuring V, I, P, Z, and Theta
Dig., 1972 Conf. Precision Electromagn. Meas., 26-29 June, 1972,
Boulder, CO, pp. 6-29
1972

The Six-Port Coupler: A New Approach to Measuring Voltage, Current,
Power, Impedance, and Phase
IEEE Trans. Instrum. Meas., Vol. IM-21, pp. 466-470
November 1972

Using Six-Port and Eight-Port Junctions to Measure Active and Passive
Circuit Parameters
NBS Tech. Note 673
September 1975

A Microwave Network Analyzer Using Two 6-Port Reflectometers;
Proc. 1977 IEEE-MTT-S Int. Microwave Symp., 21-23 June, 1977,
San Diego, CA, pp. 47-49
1977

A Network Analyzer Incorporating Two 6-Port Reflectometers
IEEE Trans. Microwave Theory Techn., Vol. MIT-25, pp. 1070-1074
December 1977

Calibrating Two Six-Port Reflectometers with Only One Impedance
Standard
NBS Tech. Note 1004
June 1978

Calibrating Two Six-Port Reflectometers With an Unknown Length of
Precision Transmission Line
Proc. 1978 IEEE MTT-S Int. Microwave Symp. Dig., 27-29 June,
1978, Ottawa, Canada, pp. 176-178
1978

Calibrating a Six-Port Reflectometer with Four Impedance Standards
NBS Tech. Note 1012
March 1979

Performance of a Dual Six-Port Automatic Network Analyzer
Proc. IEEE MTT-S 1979, Int. Microwave Symp. Dig.: The World of
Microwaves, 3 April-2 May, 1979, Orlando, FL, IEEE Cat. No.
79CHI439-9 MTT-S
1979

Microwave Metrology (cont.)

HOER, C. A. (cont.)

A High Power Dual Six-port Automatic Network Analyzer Used in
Determining Biological Effects of RF and Microwave Radiation
IEEE Trans. Microwave Theory Techn., Vol. MTT-29
December 1981

Choosing Line Lengths for Calibrating Network Analyzers
IEEE, Vol. MTT-31, No. 2, pp. 76-78
January 1983

Multiport Network Analyzers
McGraw-Hill Yearbook of Science and Technol., pp. 289-292
1986

On-Line Accuracy Assessment for the Dual Six-Port ANA; Treatment of
Systematic Errors
Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD,
pp. 238-239
1986

IEEE Trans. on Instrum. and Meas., Vol. IM-36, No. 2, pp. 514-519
June 1987

An Equivalent Circuit for Imperfect Transmission Line Connectors
CPEM Dig., 7-10 June, 1988, Tsukuba Science City, Japan,
pp. 264-265
1988

HOER, C. A.; AGY, D. L.

Broad-Band Resistive-Divider-Type Directional Coupler
IEEE Trans. Instrum. Meas., Vol. IM-19, pp. 336-343
November 1970

HOER, C. A.; ENGEN, G. F.

Analysis of a Six-Port Junction for Measuring, V, I, A, B, Z, Gamma,
and Phase
Proc. 1973 Conf. of the Int. Meas. Confederation (6th),
17-23 June, 1973, Dresden, Germany, Acta Imeko, Vol. 1,
pp. 213-222
1973

Calibrating a Dual Six-Port or Four-Port for Measuring Two-Ports with
Any Connectors
Dig., 1986 IEEE-MTT Symp., 2-4 June, 1986, Baltimore, MD,
pp. 665-668
1986

Microwave Metrology (cont.)

HOER, C. A.; ENGEN, G. F. (cont.)

On-Line Accuracy Assessment for the Dual Six-Port ANA: Extension to Non-Mating Connectors

Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD,
pp. 241-242
1986

IEEE Trans. on Instrum. and Meas., Vol. IM-36, No. 2, pp. 524-529
June 1987

HOER, C. A.; ROE, K. C.

Using an Arbitrary Six-Port Junction to Measure Complex Voltage Ratios

IEEE Trans. Microwave Theory Techn., Vol. MTT-23, No. 12,
pp. 978-984
December 1975

HOER, C. A.; ROE, K. C.; ALLRED, C. M.

Measuring and Minimizing Diode Detector NonLinearity

Proc. 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1976, Boulder, CO, pp. 108-109
1976

HOLT, D. R.

Determination of Scattering Parameters from Precision Coaxial Air-Line Standards

CPEM Dig., 7-10 June, 1988, Tsukuba Science City, Japan, p. 263
1988

Scattering Parameters Representing Imperfections in Precision Coaxial Air Lines

J. of Research of the NIST, Vol. 94, No. 2, pp. 117-133
March-April 1989

HOLT, D. R.; HOER, C. A.

Estimation of True Power Ratios in Six-port Network Analyzers Using Diode Detectors

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985,
Tampa, FL, pp. 140-141
1985

IEEE Trans. on Instrum. and Meas., Vol. IM-34, No. 4, pp. 558-563
December 1985

Microwave Metrology (cont.)

HUDSON, P. A.

Measurement of RF Peak Pulse Power

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 851-855

June 1967

The National Measurement System for Medical Ultrasonics

NBSIR 75-937

February 1976

HUDSON, P. A.; SAULSBERY, L. F.

An Adjustable-Slot-Length UHF Coaxial Coupler with Decade Bandwidth

IEEE Trans. Microwave Theory Techn., Vol. MTT-19, pp. 781-783

September 1971

HUDSON, P. A.; MELQUIST, D. G.; ONDREJKA, A. R.; WERNER, P. E.

Completion of the Program to Evaluate/Improve Instrumentation and Test
Methods for Electroexplosive Device Safety Qualification

NBSIR 74-379

June 1974

HUNTLEY, L. E.; JONES, R. N.

Lumped Parameter Impedance Measurements

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 900-911

June 1967

JESCH, R. L.

Impedance Measurements in Coaxial Waveguide Systems

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 912-923

June 1967

Repeatability of SMA Coaxial Connectors

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 4, pp. 314-320

December 1976

Evaluation of Low-Loss/Low-Reflection Two-Port Devices or Adapters by
Automated Measurement Techniques

NBSIR 78-870

December 1977

JESCH, R. L.; HOER, C. A.

Characterization of a High Frequency Probe Assembly for Integrated
Circuit Measurements

NBS Tech. Note 663

January 1975

Microwave Metrology (cont.)

JONES, R. N.

The Measurement of Lumped Parameter Impedance

NBS MN 141

June 1974

Evaluation of Three-Terminal and Four-Terminal Pair Capacitors at High Frequencies

NBS Tech. Note 1024

September 1980

A Comparison of Centrifuge and Freezing Calorimeter Methods for Measuring Free Water in Snow

NBSIR 79-1604

April 1979

JONES, R. N.; HUNTLEY, L. E.

A Precision, High Frequency Calibration Facility for Coaxial Capacitance Standards

NBS Tech. Note 386

March 1970

JUDISH, R. M.

Quality Control of Measurements--Measurement Assurance

Proc. IEEE Spec. Issue on Radio Meas. Methods and Standards,
Vol. 74, No. 1, pp. 23-25

January 1986

On-Line Accuracy Assessment for the Dual Six-Port ANA: Statistical Methods for Random Errors

Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD, p. 237
1986

JUDISH, R. M.; ENGEN, G. F.

On-Line Accuracy Assessment for the Dual Six-Port ANA: Statistical Methods for Random Errors

IEEE Trans. on Instrum. and Meas., Vol. IM-36, No. 2, pp. 507-513
June 1987

JUDISH, R. M.; JONES, R. N.

A Generalized Method for the Calibration of Four-Terminal-Pair Type Digital Impedance Meters

NBSIR 84-3016

August 1984

Microwave Metrology (cont.)

JUROSHEK, J. R.

On-Line Accuracy Assessment for the Dual Six-Port ANA: Experimental Results

Dig., 1986 CPEM, 23-27 June, 1986, NBS/Gaithersburg, MD, p. 240
1986

IEEE Trans. on Instrum. and Meas., Vol. IM-36, No. 2, pp. 520-523
June 1987

A Study of Measurement of Connector Repeatability Using Highly Reflecting Loads

IEEE Trans. on Microwave Theory and Techniques, Vol. MTT-35, No. 4, pp. 457-460
April 1987

JUROSHEK, J. R.; HOER, C. A.

A Dual Six-port Network Analyzer Using Diode Detectors

IEEE Trans. Microwave Theory Technol., Vol. MTT-32, No. 1, pp. 78-82
January 1984

A High-Power Automatic Network Analyzer for Measuring the RF Power Absorbed by Biological Samples in a TEM Cell

IEEE Trans. Microwave Theory Technol., Vol. MTT-32, No. 8, pp. 818-824
August 1984

A Technique for Extending the Dynamic Range of the Dual Six-port Network Analyzer

IEEE Trans. on Microwave Theory and Technol., Vol. MTT-33, No. 6, pp. 453-459
June 1985

JUROSHEK, J. R.; HOER, C. A.; KAISER, R. K. F.

Calibrating Network Analyzers with Imperfect Test Ports

IEEE Trans. on Instrum. and Meas., Vol. 38, No. 4, pp. 898-901
August 1989

KAMPER, R. A.

The National Electromagnetic Measurement System

NBSIR 75-936
June 1977

Status of RF and Microwave Calibration Services at NBS

Nat. Conf. of Standards Laboratories Newsletter, Vol. 18, No. 3, p. 40
December 1978

Microwave Metrology (cont.)

KAMPER, R. A. (cont.)

Current Trends in NBS Calibration Services
Nat. Conf. of Standards Laboratories Newsletter, Vol. 22, No. 1,
pp. 38-39
March 1982

KAMPER, R. A.; HOER, C. A.

Millimeter Wave Standards at the National Bureau of Standards (NBS)
Proc. The Int. Soc. for Optical Engineering (SPIE), 23-24 August,
1983, San Diego, CA, Vol. 423, pp. 144-146
1983

KANDA, M.; MAY, W. G.

A Millimeter Wave Reflection Beam Isolator
IEEE Trans. Microwave Theory Technol., Vol. MTT-23, No. 6,
pp. 506-508
June 1975

KERNS, D. M.

Definitions of v , i , Z , Y , a , b , $\bar{a}$, and S
Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 892-900
June 1967

KOMAREK, E. L.

An Application of the Power Equation Concept and Automation Techniques
to Precision Bolometer Unit Calibration
Proc. 1974 IEEE S-MTT Int. Microwave Symp., 12-14 June, 1974,
Atlanta, GA, Microwave Symposium Digest, pp. 263-265
1974

An Automated Broadband System for Measurement of One-Port Microwave
Parameters

Proc. 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1976, Boulder, CO, pp. 167-170
1976

An Application of the Six-Port Junction to Precision Measurement of
Microwave One-Port Parameters

Proc. 1977 IEEE-MTT-S Int. Microwave Symp., 21-23 June, 1977, San
Diego, CA, pp. 56-57
1977

Performance Characteristics of an Automated Broad-Band Bolometer Unit
Calibration System

IEEE Trans. Microwave Theory, Vol. MTT-25, pp. 1122-1127
December 1977

Microwave Metrology (cont.)

KOMAREK, E. L. (cont.)

Advantages of the Six-port Reflectometer for RF/Microwave Power
Measurement in Operational Systems
Government Micro-Circuit Applications Conf. Dig.
1978

KOMAREK, E. L.; TRYON, P. V.

An Application of the Power Equation Concept and Automation Techniques
to Precision Bolometer Unit Calibration
IEEE Trans. Microwave Theory Techn. Part II, 1974 Symp. Issue,
Vol. MTT-22, pp. 1260-1267
December 1974

LARSEN, N. T.

A New Self-Balancing DC-Substitution RF Power Meter
Proc. 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1976, Boulder, CO, pp. 203-205
1976

IEEE Trans. Instrum. Meas., Vol. IM-25, pp. 343-347
December 1976

NBS Type IV RF Power Meter Operation and Maintenance
NBSIR 77-866
October 1977

Microwave Power Standards at the National Bureau of Standards
1987 NCSL Workshop and Symp., 12-16 July, 1987, Denver, CO,
pp. 34-1 - 34-7
1987

LARSON, W.; CAMPBELL, E.

Microwave Attenuation Measurement System (Series Substitution)
NBS Tech. Note 647
February 1974

LAWTON, R. A.; ALLRED, C. M.; HUDSON, P. A.

A Wide Range CW Power Measurement Technique
IEEE Trans. Instrum. Meas., Vol. IM-19, pp. 28-34
February 1970

LITTLE, W. E.; YATES, B. C.

Reflection Coefficient Standards for Automated Network Analyzers
Proc. 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1976, Boulder, CO, pp. 128-129
1976

Microwave Metrology (cont.)

LITTLE, W. E.; WAKEFIELD, J. P.; HEIM, L.; ALLRED, C. M.; ZAPF, T. L.

An NBS Developed Automatic Network Analyzer

Proc. 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1976, Boulder, CO, pp. 382-385
1976

LIVINGSTON, E. M.; ADAIR, R. T.

Performance Evaluation of Radiofrequency, Microwave and Millimeter Wave
Power Meters

NBS Tech Note 1310
December 1988

MAJOR, J. R.; LIVINGSTON, E. M.; ADAIR, R. T.

Automatic Frequency Response of Frequency Modulated Generators Using
the Bessel Null Method

Dig., 24th Automatic RF Techniques Group Conf., 5-6 December,
1984, Columbia, MD, pp. 131-153
1984

Proc. 1985 Test and Measurement World Expo, 14-16 May, 1985,
San Jose, CA, pp. 78-100
1985

NBS Tech. Note 1093
March 1986

NAHMAN, N. S.

A Note on the Transition (Rise) Time Versus Line Length in Coaxial
Cables

IEEE Trans. Circuit Theory, Vol. CT-20, pp. 165-167
March 1973

ONDREJKA, A. R.

Peak Pulse Voltage Measurement (Baseband Pulse)

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 882-885
June 1967

REEVE, G. R.; ARTHUR, M. G.

A Standard for RF Modulation Factors

NBS Tech. Note 1016
September 1979

REEVE, G. R.; MILLER, C. K. S.

Current NBS Metrology Capabilities and Limitations at Millimeter Wave
Frequencies

Proc. 1985 Meas. Science Conf., 17-18 January, 1985, Santa Clara,
CA, pp. 296-314
1985

RIES, F. X.

An International Intercomparison of Voltage Standards at 1 GHz in
Coaxial Transmission Line

IEEE Trans. on Instrum. and Meas., Vol. IM-25, 4 p.

September 1976

ROE, K. C.; HOER, C. A.

A Microwave Vector Voltmeter System

NBSIR 76-844

August 1976

RUMFELT, A. Y.; ELWELL, L. B.

Radio Frequency Power Measurements

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 837-850

June 1967

RUSSELL, D. H.

An Unmodulated Twin-Channel Microwave Attenuation Measurement System;

ISA Trans., Vol. 4, pp. 162-169

April 1965

RUSSELL, D. H.; LARSON, W.

RF Attenuation

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 942-959

June 1967

SAULSBERY, L. F.; ADAIR, R. T.

ANA Measurement Results on the ARFTG Traveling Experiment

Conf. Dig., 28th Automatic RF Techniques Group, 4-5 December,
1986, St. Petersburg Beach, FL, pp. 65-78

1987

SCOTT, W. W., Jr.

A New Coaxial RF-DC Ammeter

Proc. 1970 Dig. on Precision Electromagn. Meas. Conf., 2-5 June,
1970, Boulder, CO, Special Issue CPEM Digest p. 13

1970

SCOTT, W. W., Jr.; FREDERICK, N. V.

The Measurement of Current at Radio Frequencies

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 886-891

June 1967

SELBY, M. C.

Voltage Measurement at High and Microwave Frequencies in Coaxial Systems
Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 877-882
June 1967

SEQUEIRA, H. B.; YATES, B. C.

Approach for Evaluating Effects of Wall Losses on Quarter-Wave Losses
on Quarter-Wave Short-Circuit Impedance Standards
IEEE Trans. on Microwave Theory and Techniques, Vol. MTT-33,
No. 11, pp. 1106-1109
November 1985

SIMPSON, P. A.

Broadband Pulsed/CW Calibration Signal Standard for Field Intensity
Meter (FIM) Receivers
NBSIR 74-371
June 1974

SIMPSON, P. A.; HUDSON, P. A.

Implementation of the Notch Technique as an RF Peak Pulse Power
Standard
NBS Tech. Note 682
July 1976

SIMPSON, P. A.; ONDREJKA, A. R.

Improvements to the NBS RF Peak-Pulse Power Standard
1970 Instrument Soc. of America Silver Jubilee Int. Conf. and
Exhibit, October, 1970, Philadelphia, PA, Paper 709-70, pp. 1-7.
1970

SLADEK, M. J.; JESCH, R. L.

Standardization of Coaxial Connections in the IEC
Proc. IEEE Spec. Issue on Radio Meas. Methods and Standards,
pp. 14-18
January 1986

WEIDMAN, M. P.

A Semi-Automated Six-Port for Measuring Millimeter Wave Power and
Complex Reflection Coefficient
Proc. 1977 IEEE-MTT-S Int. Microwave Symp., 21-23 June, 1977,
San Diego, CA, pp. 58-60
1977

IEEE Trans. Microwave Theory Technol., Vol. MTT-25, pp. 1083-1085
December 1977

Microwave Metrology (cont.)

WEIDMAN, M. P. (cont.)

WR-10 Single Six-port Measurement System

NBSIR 81-1650

September 1981

Finline Diode Six-Port: Fundamentals and Design Information

NBS Tech. Note 1090

December 1985

WEIDMAN, M. P.; CAMPBELL, E.

A Method for Designing Multi-Screw Waveguide Tuners

NBS Tech. Note 393

October 1970

WEIDMAN, M. P.; ENGEN, G. F.

Application of a Non-Ideal Sliding Short to Two-Port Loss Measurement

NBS Tech. Note 644

October 1973

WEIDMAN, M. P.; HUDSON, P. A.

WR-10 Millimeter Wave Microcalorimeter

NBS Tech. Note 1044

June 1981

YATES, B. C.; COUNAS, G. J.

Summary of WR15 Flange Evaluation at 60 GHz

NBS Tech. Note 642

October 1973

YATES, B. C.; LARSON, W.

Millimeter Attenuation and Reflection Coefficient Measurement System

NBS Tech. Note 619

July 1972

NOISE

ARTHUR, M. G.

A Precision HF-Noise Power Measurement System
Instr. Soc. Amer. ISA-70 Conf., October, 1971
1971

The Measurement of Noise Performance Factors: A Metrology Guide
NBS MN 142
June 1974

BOYLE, D. R.; CLAGUE, F. R.; REEVE, G. R.; WAIT, D. F.; KANDA, M.
An Automated Precision Noise Figure Measurement System at 60 GHz
IEEE Trans. Instrum. Meas., Vol. IM-21, No. 4, pp. 543-549
November 1972

COUNAS, G. J.

NBS 2.0 GHz to 4.0 GHz Automated Radiometer Operation and Service Manual
NBSIR 84-1697
January 1984

COUNAS, G. J.; BREMER, T. H.

NBS 30/60 Megahertz Noise Measurement System Operation and Service
Manual
NBSIR 81-1656
December 1981

DAYWITT, W. C.

A Reference Noise Standard for Millimeter Waves
IEEE Trans. Microwave Theory Technol., Vol. MTT-21, No. 12,
pp. 845-847
December 1973

Error Equations Used in the NBS Precision G/T Measurement System
NBSIR 76-842
September 1976

A Precision Earth-Terminal System for Accurate C/KT, G/T, and EIRP
Measurements with a Calibrated Radio Star
Proc. 1977 URSI Int. Symp. on Meas. in Telecommunications, 3-7
October, 1977, Lannion, France, pp. 1-4
1977

Error Equations Used in the NBS Earth-Terminal Measurement System
NBSIR 78-869
December 1977

Atmospheric Propagation Equations Used in the NBS Earth Terminal
Measurement System
NBSIR 78-883
April 1978

Noise (cont.)

DAYWITT, W. C. (cont.)

An Error Analysis for the Measurement of Satellite EIRP using a
Calibrated Radio Star

IEEE Trans. Instrum. Meas., Vol. IM-27, No. 3, pp. 253-258
September 1978

Design and Error Analysis for the WR10 Thermal Noise Standard

NBS Tech. Note 1071
December 1983

An Error Analysis for the Use of Presently Available Lunar Radio Flux
Data in Broadbeam Antenna-System Measurements

NBS Tech. Note 1073
February 1984

Proc. 1984 Antenna Applications Symp., 19-21 September, 1984,
University of Illinois, Urbana-Champaign, IL, pp. 1-26
1984

A Coaxial Noise Standard for the 1 GHz to 12.4 GHz Frequency Range

NBS Tech. Note 1074
March 1984

A Preliminary Investigation into using the Sun as a Source for G/T
Measurements

NBSIR 84-3015
August 1984

A Derivation for the Noise Temperature of a Horn-type Noise Standard

International Journal of Scientific Metrology, Metrologia, 21,
pp. 127-133
1985

Broadband Noise Source Applications

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985,
Tampa, FL, pp. 165-166
1985

10-60 GHz G/T Measurements Using the Sun as a Source--A Preliminary
Study

NBSIR 86-3046
April 1986

Noise (cont.)

DAYWITT, W. C. (cont.)

A Simple Technique for Determining Joint Losses on a Coaxial Line from Swept-Frequency Reflection Data

Dig., 1986 CPDM, 23-27 June, 1986, NBS/Gaithersburg, MD, p. 40
1986

IEEE Trans. on Instrum. and Meas., Vol. IM-36, pp. 468-473
June 1987

Complex Admittance of a Lossy Coaxial Open Circuit with a Hollow Center Conductor

Int. J. of Scientific Metrology, Metrologia, 24, pp. 13-22
1987

A Simple Technique for Investigating Defects in Coaxial Connectors

IEEE Trans. on Microwave Theory and Techniques, Vol. MTT-35,
No. 4, pp. 460-464
April 1987

Radiometer Equation and Analysis of systematic Errors for the NIST Automated Radiometers

NIST Tech Note 1327
March 1989

DAYWITT, W. C.; KANDA, M.

G/T Measurement Errors with Radio Stars

Proc. 1975 IEEE Int. Antennas and Propagat. Symp., 2-4 June,
1975, Urbana-Champaign, IL, Session 20, pp. 460-463
1975

DAYWITT, W. C.; FOOTE, W. J.; CAMPBELL, E.

WR15 Thermal Noise Standard

NBS Tech. Note 615
March 1972

ENGEL, G. F.

A New Method of Characterizing Amplifier Noise Performance

IEEE Trans. Instrum. Meas., Vol. IM-19, pp. 344-349
November 1970

Mismatch Considerations in Evaluating Amplifier Noise Performance

IEEE Trans. Instrum. Meas., Vol. IM-22, pp. 274-278
September 1973

Noise (cont.)

ESTIN, A. J.; DAYWITT, W. C.

Evaluation of Signal Plus Noise Detection Error in an Envelope Detector
with Logarithmic Compression

Proc. 1978 Conf. on Precision Electromagn. Meas., 26-29 June,
1978, Ottawa, Canada
1978

NBSIR 79-1614(R)
August 1979

IEEE Trans. Inf. Theory, Vol. IT-17, No. 5, pp. 663-664
September 1981

GEYER, R. G.

Magnetostatic Measurements for Mine Detection
NISTIR 88-3098
October 1988

HALFORD, D.

Infrared-Microwave Frequency Synthesis Design: Some Relevant Conceptual
Noise Aspects

Proc. 1971 Frequency Standards and Metrology Seminar, 30 August-
1 September, Quebec, Canada, pp. 431-466
1972

Comparing Frequencies

Physics Today, Vol. 26, No. 2, p. 15
February 1973

Transparent Metrology of Signal to Noise RATios of Noisy Band-limited
Digital Signals

NBS Tech. Note 1077
June 1985

KANDA, M.

A Measure for the Stability of Solid State Noise Sources

Proc. 1975 IEEE Int. Microwave Theory and Technique Symp.,
12-14 May, 1975, Palo Alto, CA, pp. 315-317
1975

Study of Errors in Absolute Flux Density Measurements of Cassiopeia A

NBSIR 75-822
October 1975

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 3, pp. 173-182
September 1976

Noise (cont.)

KANDA, M. (cont.)

An Improved Solid State Noise Source

Proc. 1976 IEEE MTT-S Microwave Symp., 14-16 June, 1976, Cherry Hill, NJ, pp. 224-226
1976

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 3, pp. 173-182
September 1976

KANDA, M.; LARSON, T. R.

Stability of Silicon Avalanche Noise Diodes at K and Ka Bands

Proc. 1976 Conf. on Precision Electromagn. Meas., 28 June-1 July, 1976, Boulder, CO
1976

MILLER, C. K. S.; DAYWITT, W. C.

The NBS Switching Radiometers

NBSIR 84-3004
May 1984

The Reference Noise Standards NBS WR62 and WR90

NBSIR 84-3005
May 1984

MILLER, C. K. S.; DAYWITT, W. C.; ARTHUR, M. G.

Noise Standards, Measurements, and Receiver Noise Definitions

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards, Vol. 55, No. 6, pp. 865-877
June 1967

PERERA, S.

Noise Temperature Measurements at the National Bureau of Standards

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985, Tampa, FL, pp. 159-160
1985

WAIT, D. F.

Considerations for the Precise Measurement of Amplifier Noise

NBS Tech. Note 640
1973

Earth Terminal Measurement System Operations Manual

NBSIR 78-879
April 1978

Noise (cont.)

WAIT, D. F. (cont.)

Precision Measurement of Antenna System Noise Using Radio Stars
Dig., 1982 Conf. on Precision Electromagn. Meas., 28 June-1 July,
1982, Boulder, CO, p. F-17
1982

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 110-116
March 1983

Earth Terminal Measurement System Operations Manual (Revised)
NBSIR 83-1679(R)
January 1983

The Impact of Automation on NBS Noise Temperature Measurements
Proc. IEEE Spec. Issue on Radio Meas. Methods and Standards.,
pp. 117-120
1986

WAIT, D. F.; DAYWITT, W. C.

Preliminary Examination of 20 GHz G/T Measurements of Earth Terminals
NBSIR 83-1686
March 1983

Intercomparison of NBS Noise Calibration Services
CPEM Dig., 7-10 June, 1988, Tsukuba Science City, Japan,
pp. 209-210
1988

WAIT, D. F.; KANDA, M.; DAYWITT, W. C.; MILLER, C. K. S.

A Study of the Measurement of G/T Using Cassiopeia A
NBSIR 74-382
October 1974

WAKEFIELD, J. P.

Addendum to Earth Terminal Measurement System Maintenance Manual
NBSIR 81-1641
October 1981

REMOTE SENSING

BELSHER, D. R.

Feasibility Study on the use of a Microwave System for the
Nondestructive Evaluation of Historic Adobe Structures

NBSIR 79-1610

July 1979

BELSHER, D. R.; MCLAUGHLIN, R. G.; REPJAR, A. G.; BUSSEY, H. E.

Detection of Lost Wells and Unknown Water-filled Voids in Coal Mines
through Development of an Experimental Microwave System

NBSIR 84-3017

September 1984

BEREUTER, W. A.; CHANG, D. C.

Electromagnetic Remote Sensing of Inhomogeneous Media

NBSIR 76-851

January 1977

BOYNE, H. S.; ELLERBRUCH, D. A.

Microwave Measurements of Snow Stratigraphy and Water Equivalence

Proc. The Western Snow Conference

April 1979

CHANG, A. T. C.; SHIUE, J. C.; BOYNE, H. S.; ELLERBRUCH, D. A.;

COUNAS, G. J.

Preliminary Results of Passive Microwave Snow Experiment During
February and March 1978

NASA-TP-1408, Rept-7802-F22, 114 p.

1979

CHEW, H.

Modeling of Oil Shale Retorts for Electromagnetic Sensing Techniques

NBSIR 81-1653

November 1981

Electromagnetic Modeling of Oil Shale Retorts for Remote Sensing
Purposes

IEEE Trans. Geosci. & Remote Sensing, Vol. GE-20, No. 4,
pp. 510-517

October 1982

COLLIER, R. S.; ELLERBRUCH, D. A.

RF (Radiofrequency) Total Mass Gauging in Large Storage Containers:
Empty Tank Modes

NBSIR 73-346

October 1973

Remote Sensing (cont.)

COLLIER, R. S.; ELLERBRUCH, D. A.; CRUZ, J. E.; STOKES, R. W.; LUFT, P. E.
Mass Quantity Gauging by RF Mode Analysis
NBSIR 73-318
June 1973

CRUZ, J. E.; ROGERS, E. H.; HIESTER, A. E.
Continuous Liquid Level Measurements with Time-Domain Reflectometry
Advances in Cryogenic Engineering, Vol. 18, pp. 323-327 (Paper H-4)
1973

ELLERBRUCH, D. A.
Electromagnetic Attenuation Properties of Clay and Gravel Soils
NBSIR 74-381
August 1974

ELLERBRUCH, D. A.; ADAMS, J. W.
Microwave Measurement of Coal Layer Thickness
NBSIR 74-387
September 1974

ELLERBRUCH, D. A.; BELSHER, D. R.
FM-CW Electromagnetic Technique of Measuring Coal Layer Thickness
NBSIR 76-840
May 1976

Electromagnetic Technique of Measuring Coal Layer Thickness
IEEE Trans. Geosci. Electron., GE16, No. 2, pp. 126-133
April 1978

ELLERBRUCH, D. A.; JESCH, R. L.; JONES, R. N.; BUSSEY, H. E.; BOYNE, H. S.
Electromagnetic Scattering Properties of Soils and Snow
Proc. 1978 Int. Symp. on Remote Sensing of Environment (12th),
20-26 April, 1978, Ann Arbor, MI, Vol. 2, pp. 957-974
1978

ELLERBRUCH, D. A.; JOHNSON, R. B.; BELSHER, D. R.; YAGHJIAN, A. D.;
STEPPE, M. C.; FLEMING, R. W.
High Resolution Sensing Techniques for Slope Stability Studies
Federal Highway Administration Report, FHWA-7-3-0001
March 1979

HILL, D. A.

Radio Propagation in a Coal Seam and the Inverse Problem

NBS JRES, Vol. 89, No. 5, pp. 385-394

September-October 1984

Proc. 1985 Int. Symp. on Antennas and EM Theory, 26-28 August,
1985, Beijing, China, pp. 422-427
1985

Electromagnetic Wave Propagation in a Symmetrical Coal Seam

IEEE Trans. Antennas Propagat., Vol. AP-34, No. 2, pp. 244-247

February 1986

Fields of Horizontal Currents Located Above the Earth

IEEE Trans. on Geoscience and Remote Sensing, Vol. 26, No. 6, pp.
726-732

November 1988

Magnetic Dipole Excitation of a Long Conductor in a Lossy Medium

IEEE Trans. on Geoscience and Remote Sensing, Vol. 26, No. 6,
pp.720-725

November 1988

MONTGOMERY, J. P.; CHANG, D. C.

Electromagnetic Boundary-Value Problems Based Upon a Modification of
Residue Calculus and Function Theoretic Techniques

NBS MN 164

June 1979

ROE, K. C.; WITTMANN, R. C.

Improved Coal Interface Detector

NBSIR 82-1663

May 1982

STOLTENBERG, R. E.

Detection of Human Intruders by Low Frequency Sonic Interferometric
Techniques

NBSIR 74-364

May 1974

TIME DOMAIN

ADAMS, J. W.; ONDREJKA, A. R.; MEDLEY, H. W.

Time-Domain System for Identification of the Natural Resonant
Frequencies of Aircraft Relevant to Electromagnetic Compatibility
Testing

NBSIR 87-3077

November 1987

ANDREWS, J. R.

Impulse Generator Spectrum Amplitude Measurement Techniques

IEEE Trans. Instrum. Meas., Vol. IM-25, No. 4, pp. 380-384

December 1976

ANDREWS, J. R.; BALDWIN, E. E.

Baseband Impulse Generator Useful to 5 GHz

Proc. 1975 IEEE Int. Symp. on Electromagn. Compat., 7-9 October,
1975, San Antonio, TX, pp. 1-4

1975

ANDREWS, J. R.; GANS, W. L.

Time Domain Automatic Network Analyzer

L'Onde Electrique, Vol. 55(10), pp. 569-574

December 1975

GANS, W. L.; ANDREWS, J. R.

Time Domain Automatic Network Analyzer for Measurement of RF and
Microwave Components

NBS Tech. Note 672

September 1975

LAWTON, R. A.; ONDREJKA, A. R.

Standards for the Measurement of Impulsive Fields Radiated by a TEM
Horn Antenna

Proc. 1977 Union Radio Scientifique Int. E Comm., 3-7 October,
1977, Lannion, France, pp. 1-4

1977

LAWTON, R. A.; RIAD, S. M.; ANDREWS, J. R.

Pulse and Time Domain Measurements

Proc. IEEE, Special Issue on Radio Meas. Methods and Stds,
Vol. 74, No. 1, pp. 77-81

January 1986

NAHMAN, N. S.; JICKLING, R. M.

Frequency Domain Measurement of Baseband Instrumentation

NBSIR 73-330

July 1973

Time Domain (cont.)

NAHMAN, N. S.; JICKLING, R. M.; HOLT, D. R.

Reference-Waveform Generation Using Debye Dielectric Dispersion

NBSIR 73-304

December 1972

NAHMAN, N. S.; KANDA, M.; LAWTON, R. A.; ONDREJKA, A. R.

Time Domain Measurements of Impulsive Electromagnetic Fields and
Associated Field Probes

Int. Union of Radio Sci., XIX General Assembly, 1-8 August, 1978,
Helsinki, Finland

1978

WAVEFORM METROLOGY

ANDREWS, J. R.

Improved Bias Supply for Tunnel-Diode Picosecond Pulse Generators
IEEE Trans. Instrum. Meas., IM-19, pp. 171-175
August 1970

Horizontal Time Base Sweep Generator for a Traveling Wave Oscilloscope
IEEE Trans. Nucl. Sci., NS-18, pp. 3-18
October 1971

An Interfacing Unit for a 28 psec Feedthrough Sampling Oscilloscope
Rev. Sci. Instrum., Vol. 42, pp. 1882-1885
December 1971

A Frequency Calibrator for UHF Using an Avalanche Transistor
Q S T, Vol. 56, pp. 16-18
May 1972

Random Sampling Oscilloscope Time Base
NBSIR 73-309
June 1973

Random Sampling Oscilloscope for the Observation of Mercury Switch
Closure Transition Times
IEEE Trans. Instrum. Meas., IM-22, pp. 375-381
December 1973

Inexpensive Laser Diode Pulse Generator for Optical Waveguide Studies
Rev. Sci. Instrum., Vol. 45, pp. 22-24
January 1974

Precision Picosecond-Pulse Measurements Using a High Quality
Superconducting Delay Line
Proc. Conf. on Precision Electromagn. Meas., 1-5 July, 1974,
London, England, pp. 316-318
1974

IEEE Trans. Instrum. Meas., IM-23, pp. 468-472
December 1974

Directional-Coupler Technique for Triggering a Tunnel Diode
IEEE Trans. Instrum. Meas., IM-24, pp. 275-277
September 1975

Impulse Generator Spectrum Amplitude Measurement Techniques
CPEM Dig., pp. 23-24
1976

ANDREWS, J. R. (cont.)

Measurement on Pulses and Pulse Transmission Media, Circuits and Components

URSI Review of Radio Science, p. 9
1975-1977

The Estimation of the Pulse Waveform in the Calibration of Impulse Generators

Dig. of Papers, URSI/U. S. Nat. Radio Sci. Meeting, January, 1981,
Boulder, CO, p. 87
1981

Pulse Reference Waveform Standards Development at NBS

Proc. ATE Seminar/Exhib., January, 1981, Pasadena, CA,
p. IV.13-IV.19
1981

ANDREWS, J. R.; BALDWIN, E. E.

Amplitude Calibrator for Oscilloscopes
NBSIR 81-1646
April 1981

ANDREWS, J. R.; GANS, W. L.

Pulsed Wavemeter Timing Reference for Sampling Oscilloscope Calibration
IEEE Trans. Instrum. Meas., IM-24, p. 82
March 1975

ANDREWS, J. R.; LAWTON, R. A.

Picosecond Pulse Research at NBS
Proc. Joint Meas. Conf., 12-14 November, 1974, Gaithersburg, MD,
pp. 123-140
1974

Electrically Strobed Optical Waveform Sampling Oscilloscope

Rev. Sci. Instrum., Vol. 47, pp. 311-313
March 1976

ANDREWS, J. R.; NAHMAN, N. S.

Electron-Beam Deflection in Traveling-Wave Oscilloscopes
Record of Symp. on Electron, Ion, and Laser Beam Technol. (11th),
12-14 May, 1971, Boulder, CO
1971

The Measurement of Pulse Transition Duration

Proc. Union Radio Scientifique Internationale Comm. Symp.,
3-7 October, 1977, Lannion, France, pp. 159-164
1977

Waveform Metrology (cont.)

ANDREWS, J. R.; BELL, B. A.; BALDWIN, E. E.

Reference Flat Pulse Generator

NBS Tech. Note 1067

October 1983

ANDREWS, J. R.; NAHMAN, N. S.; BELL, B. A.

Status of Reference Waveform Standards Development at NBS

NBS SP 634, Proc. 1981 Seminar on Waveform Recorder Measurement

Needs and Techn. for Evaluation/Calibration, 15 October, 1981,

Boulder, CO, pp. 69-88

1982

ANDREWS, J. R.; WHITEMORE, T.; MCCA, W. D. Jr.

Survey of Present Waveform Sampling System Limitations

NBS Rept. 10731

February 1972

ANDREWS, J. R.; BELL, B. A.; NAHMAN, N. S.; BALDWIN, E. E.

Reference Waveform Flat Pulse Generator

1982 CPEM Conf. Dig., June, 1982

1982

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 27-32

March 1983

BOUILLE, R.; ANDREWS, J. R.

Measurement of Broadening of Pulses in Glass Fibers

Electron. Lett., Vol. 8, pp. 309-310

June 1972

EKSTROM, M. P.; MCCA, W. D. Jr.; NAHMAN, N. S.

The Measured Time and Frequency Response of a Miniature Superconducting Coaxial Line

IEEE Trans. Nucl. Sci., NS-18, pp. 18-25

October 1971

GANS, W. L.

Present Capabilities of the NBS Automatic Pulse Measurement System

CPEM Dig., pp. 25-26

1976

IEEE Trans. Instrum. Meas., IM-25, pp. 384-388

December 1976

Waveform Metrology (cont.)

GANS, W. L. (cont.)

The Measurement and Deconvolution of Time Jitter in Equivalent-Time
Waveform Samplers

IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 126-133
March 1983

Picosecond Pulse Measurements at NBS

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985,
Tampa, FL, pp. 142-144
1985

Picosecond Pulse Waveform Error Analysis at NBS

Proc. IEEE Spec. Issue on Radio Meas. Methods and Standards,
pp. 86-90
January 1986

GANS, W. L.; NAHMAN, N. S.

Pulse Testing of RF and Microwave Components
NBSIR 1973
July 1973

Shielded Balanced and Coaxial Transmission Lines - Parametric
Measurements and Instrumentation Relevant to Signal Waveform
Transmission in Digital Service

NBSIR 81-1042
June 1981

HOLT, D. R.; NAHMAN, N. S.

Coaxial Line Pulse-Response Error Due to a Planar Skin Effect
Approximation

Proc. 1972 Conf. on Precision Electromagn. Meas., 26-29 June,
1972, Boulder, CO, pp. 1-2
1972

IEEE Trans. Instrum. Meas., IM-21, pp. 515-519
November 1972

HONDA, T.; NAHMAN, N. S.

A Dye Modelocked Nd³⁺ Glass Laser for Generating Electrical Reference
Waveforms

NBSIR 74-360
September 1972

Application of Ultrashort Optical Pulses to Electrical Pulse
Measurements

Proc. Symp. on New Instrum., 28-29 January, 1974, IEE of Japan,
Hokkaido University, pp. 29-38
1974

Waveform Metrology (cont.)

HUDSON, P. A.; ANDREWS, J. R.; BLANK, W.; ONDREJKA, A. R.

Investigation and Evaluation of Methods for Pulse Rise-Time Measurement
Tech Report RADC-TR-68-207
October 1968

KANDA, M.

Time Domain Sensors and Radiators

Nat. Radio Science Meeting, January, 1982, University of Colorado,
Boulder, CO
1982

LAWTON, R. A.

NBS SP 634 (Editor), Proc. 1981 Seminar on Waveform Recorder
Measurement Needs and Techniques for Evaluation/Calibration,
15 October, 1981, Boulder, CO
1982

Precision Picosecond-Microsecond Electromagnetic Waveform Measurement
at NBS

NBS SP 628 pp. 392-407
June 1982

Performance Standards for Waveform Recorders

IEEE Trans. Nucl. Sci., Vol. NS-30, No. 1, pp. 263-266
February 1983

Photoconductive Switches Used for Waveform Generation at the National
Bureau of Standards

Proc. 1983 Picosecond Optoelectronics Conf., SPIE - The
International Society for Optical Engineering, 24-26 August, 1983,
San Diego, CA, Vol. 439, pp. 88-94
1983

An Efficient Antialiasing Filter

Dig., 1984 Conf. on Precision Electromagn. Meas., 20-24 August,
1984, Delft, The Netherlands, pp. 104-105
1984

IEEE Trans. on Instrum. and Meas., Vol. IM-34, No. 4, pp. 570-573
December 1985

Pulse Waveform Standards for Electro-Optics

Proc. 1985 Topical Meeting on Picosecond Electronics and
Opto-Electronics, 13-15 March, 1985, Lake Tahoe, NV, pp. 205-206
1985

Waveform Metrology (cont.)

LAWTON, R. A. (cont.)

Status Report Transient Waveform Recorder Standard

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985,
Tampa, FL, pp. 154-155
1985

LAWTON, R. A.; ANDREWS, J. R.

Pulsed-Laser Application to Sampling Oscilloscope

Electron. Lett., Vol. 11, pp. 138
April 1975

Electrical Strobng of Photoconductor Cuts Sampling Oscilloscope's
Risetime

Laser Focus, pp. 62-65
November 1976

LAWTON, R. A.; MEYER, K.

Waveform Standards for Electro-Optics: A Pulse Duration Comparison

IEEE Trans. on Microwave Theory and Techn., Vol. MTT-35,
No. 4, pp. 450-453
April 1987

LAWTON, R. A.; NAHMAN, N. S.

Pyroelectric Detector Application to Baseband Pulse Measurements

Electron. Lett., Vol. 8, pp. 318-330
June 1972

LAWTON, R. A.; NAHMAN, N. S.; BIGELOW, J. M.

A Solid State Reference Waveform Standard

Dig., Instrum. and Meas. Technol. Conf., 17-18 January, 1984, Long
Beach, CA, pp. 74-76
1984

IEEE Trans. Instrum. Meas., Vol. IM-33, No. 3, pp. 201-205
September 1984

Reference Waveform Standard

Dig., IEEE Trans. Instrum. Meas., Vol. IM-33, No. 3, pp. 201-205
September 1984

LAWTON, R. A.; SCAVENNEC, A.

Photoconductive Detector of Fast-Transition Optical Waveforms

Electron. Lett., Vol. 11, pp. 74-75
February 1975

LAWTON, R. A.; YOUNG, M.

Laser-Mode Beating Used for Detector Frequency-Response Measurements

Appl. Opt., Vol. 16, pp. 2703-2705
October 1977

Waveform Metrology (cont.)

MCCAA, W. D. Jr.; NAHMAN, N. S.

Generation of Reference Waveforms by Uniform Lossy Transmission Lines
IEEE Trans. Instrum. Meas., IM-19, pp. 382-390
November 1970

NAHMAN, N. S.

The Measurement of Baseband Pulse Rise Times of Less than 10^{-9} Second
Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,
Vol. 55, No. 6, pp. 855-864
June 1967

Picosecond Domain Waveform Measurements (Japanese translation)
Nikkei Electron., Nikkei-McGraw Hill
April 1979

Error Criteria and the Use of Reference Waveforms
Proc. ATE Seminar/Exhib., January, 1981, Pasadena, CA,
pp. IV.21-IV.28
1981

Error Criteria and the Use of Reference Waveforms
Electron. Test, Vol. 4, No. 2, pp. 72-76
February 1981

Some Generic Waveform Recorder Problems
NBS SP 634, Proc. 1981 Seminar on Waveform Recorder Measurement
Needs and Techn. for Evaluation/Calibration, 15 October, 1981,
Boulder, CO, pp. 1-5
1982

Picosecond Domain Waveform Measurements; Status and Future Directions
IEEE Trans. Instrum. Meas., Vol. IM-32, No. 1, pp. 117-124
March 1983

Software Correction of Measured Pulse Data
NATO ASI Series on Fast Electrical and Optical Meas., Vol 1,
Series E, No. 108, pp. 351-417
1986

Picosecond-Domain Waveform Measurements
Proc. IEEE, Vol. 66, pp. 414-423
April 1978

NAHMAN, N. S.; GUILLAUME, M. E.

Deconvolution of Duration Limited Waveforms
Dig. of Papers, URSI/U. S. National Radio Sci. Meeting, January,
1981, Boulder, CO, p. 86
1981

NAHMAN, N. S.; HOLT, D. R.

Transient Analysis of Coaxial Cables Using the Skin Effect
Approximation A + B (the square root of s)

IEEE Trans. Circuit Theory, CT-19, pp. 443-451

September 1972

NAHMAN, N. S.; EKSTROM, M. P.; MCCAA, W. D. Jr.

Measured Time and Frequency Response of a Miniature Superconducting
Coaxial Line

Applied Superconductivity Conf., June, 1970, Boulder, CO

1970

RIAD, S. M.

The Deconvolution Problem: An Overview

Proc. of the IEEE, Special Issue on Radio Meas. Methods and
Standards, pp. 82-85

January 1986

RIAD, S. M.; NAHMAN, N. S.

Application of the Homomorphic Deconvolution for the Separation of TDR
Signals Occurring in Overlapping Time Windows

CPEM Dig., pp. 27-29

1976

IEEE Trans. Instrum. Meas., IM-25, pp. 388-391

December 1976

SCAVENNEC, A.; NAHMAN, N. S.

Active and Passive Mode Locking of Continuously Operating Rhodamine 6G
Dye Lasers

NBSIR 73-347

February 1974

YOUNG, M.; LAWTON, R. A.

Measurement of Pulsed-Laser Power

NBS Tech. Note 1010

February 1979

MISCELLANEOUS

ARTHUR, M. G.; REEVE, G. R.

Modulation Factor Standards

NBS Tech. Note 1016

September 1979

BAIRD, R. C.

RF Measurements of the Speed of Light

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,

Vol. 55, No. 6, pp. 1032-1039

June 1967

BENSEMA, W. D.

Personal FM Transceivers

National Institute of Justice Standard-0209.01

September 1985

Mobile FM Transceivers

National Institute of Justice Technology Program, NIJ Report-210.00

May 1986

BERRY, L. A.; FITZGERRELL, R. G.; VOGLER, L. E.

Investigation of Effect of Antenna Site and Antenna Type on LF
Non-Directional Beacon Performance

FAA-RD-73-174

1973

BOWMAN, R. R.

Self-Modulating Transducers

EOS-7039-Final

1968

A Temperature Probe for Radio-Frequency Heated Material

NBSIR 81-1634

January 1981

BRANDENBERGER, H.; HADORN, F.; HALFORD, D.; SHOAF, J. H.

High Quality Quartz Crystal Oscillators: Frequency Domain and Time
Domain Stability

Proc. 1971 Frequency Control Annual Symp. (25th), 26-28 April,
1971, Atlantic City, NJ, pp. 226-234

1971

BUSSEY, H. E.; LARSEN, E. B.

Buried Antenna Performance: Development of Small Resonant Buried
Antennas

RADC-TR-74-169M, AD 783274

June 1974

Miscellaneous (cont.)

CHEW, H.

Modeling of Oil Shale Retorts for Electromagnetic Sensing Techniques
NBSIR 81-1653
November 1981

Electromagnetic Modeling of Oil Shale Retorts for Remote Sensing
Purposes

IEEE Trans. Geosci. & Remote Sensing, Vol. GE-20, No. 4,
pp. 510-517
October 1982

CLARK, H. E.

Requirements for an Effective National Nonionizing Radiation
Measurement System
NBS SP 613
June 1981

COLLIER, R. S.; CRUZ, J. E.; ELLERBRUCH, D. A.; LOWE, L. T.; WEITZEL, D. H.

Instrumentation for Hydrogen Slush Storage Containers
NASA-CR-119241
June 1971

NBS Rept. 9793
June 1971

DRIVER, L. D.; RIES, F. X.

A Wideband RF Voltage Comparator
Dig., 1980 Conf. Precision Electromagn. Meas.
June 1980

ELLERBRUCH, D. A.

Microwave Methods for Cryogenic Liquid and Slush Instrumentation
IEEE Trans. Instrum. Meas., Vol. IM-19, No. 4, pp. 412-416
November 1970

Application of Measurements of Electromagnetic Phenomena to
Oceanography

Proc. 1972 UJNR/MEC Symp. (1st), Record of the U.S.-Japan UJNR
Joint Symp. on Marine Electronics, (Japanese Electrical Industrial
Committee, Tokyo, Japan), 9 October, 1972, Tokyo, Japan, pp. 23-30
1972

Test Results for the Mooring Line Data Line

NBSIR 73-341
October 1973

Miscellaneous (cont.)

ELLERBRUCH, D. A.; BOYNE, H. S.

Active Microwave Water Equivalence Measurements
Proc. Ft. Collins Snow Workshop
1980

FITZGERRELL, R. G.

Mobile Antennas
National Institute of Justice Standard-0205.01
May 1989

FOOTE, W. J.

A New Flange Design for O-Ring Seals
Rev. Science Instrum.
August 1970

GIBSON, K. A.; MILLER, C. K. S.

Bibliography of the Electromagnetic Fields Division Publications
NBSIR 82-1673
August 1982

A Bibliography of the NBS Electromagnetic Fields Division Publications
NBSIR 85-3022
April 1985

GIBSON, K. A.; PAGE, J. M.; MILLER, C. K. S.

A Bibliography of the NBS Electromagnetic Fields Division Publications
NBSIR 85-3040
February 1986

HALFORD, D.

Infrared-Microwave Frequency Synthesis Design: Some Relevant Conceptual
Noise Aspects
Proc. 1971 Frequency Standards and Metrology Seminar,
30 August-1 September, 1971, Quebec, Canada, pp. 431-466
1972

HALFORD, D.; SHOAF, J. H.; RISLEY, A. S.

Spectral Density Analysis: Frequency Domain Specification and
Measurement of Signal Stability
1973 Annual Symp. on Frequency Control (27th), 12-14 June, 1973,
Cherry Hill, NJ, pp. 421-431
1973

HAMILTON, C.; LLOYD, F.; PETERSON, R.; ANDREWS, J. R.

A Superconducting Sampler for Josephson Logic Circuits
Appl. Phys. Lett., Vol. 35, No. 9, pp. 718-719
November 1979

Miscellaneous (cont.)

HAYES, R. E.; KANDA, M.; MASCLET, G.; MAY, W. G.

The Application of Semiconductors to Quasi-Optical Isolators for use at
Submillimeter Wavelengths

NASA-CR-105980

July 1969

NASA-CR-86379

April 1970

HILL, D. A.

HF Ground Wave Propagation over Forested and Built-up Terrain

NTIA Report 82-114

December 1982

Book Review - Leaky Feeders and Subsurface Radio Communications

IEEE Antennas and Propagat. Soc. News., Vol. 25, No. 3, pp. 23-24

June 1983

HILL, D. A.; WAIT, J. R.

Propagation Along a Coaxial Cable with a Helical Shield

IEEE Trans. Microwave Theory Technol., Vol. MTT-28, No. 2,

pp. 84-89

February 1980

Electromagnetic Theory of the Loosely Braided Coaxial Cable: Part II -
Numerical Results

IEEE Trans. Microwave Theory Technol., Vol. MTT-28, No. 4,

pp. 326-331

April 1980

Ground Wave Attenuation Function for a Spherical Earth with Arbitrary
Surface Impedance Radio Science

Radio Science, Vol. 15, No. 3, pp. 637-643

May-June 1980

On the Excitation of the Zenneck Surface Wave Over the Ground at 10 MHz

Annales des Telecommunications, Vol. 35, Nos. 5-6, pp. 1-4

May-June 1980

Electromagnetic Characteristics of a Coaxial Cable with Periodic Slots

IEEE Trans. Electromagn. Compat., Vol. EMC-22, No. 4, pp. 303-307

November 1980

HF Ground Wave Propagation over Sea Ice for a Spherical Earth Model

IEEE Trans. Antennas Propagat., Vol. AP-19, No. 3, pp. 525-527

May 1981

Miscellaneous (cont.)

HILL, D. A.; WAIT, J. R. (cont.)

HF Ground Wave Propagation over Mixed Land, Sea, and Sea-Ice Paths
IEEE Trans. Geosci. & Remote Sensing, Vol. GE-19, No. 4,
pp. 210-216
October 1981

HF Radio Wave Transmission over Sea-Ice and Remote Sensing Possibilities
IEEE Trans. Geosci. & Remote Sensing, Vol. GE-19, No. 4,
pp. 204-209
October 1981

Ground Wave Propagation over a Mixed Path with an Elevation Change
IEEE Trans. Antennas Propagat., Vol. AP-30, No. 1, pp. 139-141
January 1982

JESCH, R. L.

Evaluation of Low-Loss/Low-Reflection Two-Port Devices or Adapters by
Automated Measurement Techniques
NBSIR 78-870
December 1977

Dielectric Measurements of Oil Shale as Functions of Temperature and
Frequency
NBSIR 83-1683
January 1983

Measured Vehicular Antenna Performance
IEEE Trans. Veh. Technol., Vol. VT-34, No. 2, pp. 97-107
May 1985

Personal/Mobile FM Transceivers
National Institute of Justice Technology Program,
NIJ Report-0224.00
May 1986

Fixed and Base Station FM Transmitters
National Institute of Justice Standard - 0201.01
September 1987

Fixed and Base Station FM Receivers
National Institute of Justice Standard-0206.01
July 1988

JESCH, R. L.; BERRY, I. S.

Batteries used with Law Enforcement Communications Equipment
NBS Rept. 10722
October 1971

Miscellaneous (cont.)

JESCH, R. L.; HOER, C. A.

Characterization of a High Frequency Probe Assembly for Integrated
Circuit Measurements

NBS Tech. Note 663

January 1975

JESCH, R. L.; BAILEY, R. A.; TAUSCH, H. J.

Characterization of A H.F. Probe for Integrated Circuits Measurements

Proc. Government Micro-Circuit Applications Conf., 25-27 June,

1974, Boulder, CO, pp. 120-121

1974

JICKLING, R. M.; SHAFER, J. F.

Repeaters for Law Enforcement Communication Systems-Law Enforcement
Standard Program

Law Enforcement Standards Laboratory RPT-0206.00

October 1974

FM Repeater Systems

National Institute of Law Enforcement and Criminal Justice,

STD-0213.00

November 1977

JONES, R. N.

A Comparison of Centrifuge and Freezing Calorimeter Methods for
Measuring Free Water in Snow

NBSIR 79-1604

April 1979

Evaluation of Three-Terminal and Four-Terminal Pair Capacitors at High
Frequencies

NBS Tech. Note 1024

September 1980

KANDA, M.

Non-Reciprocal Devices Using Solid State Magnetoplasmas at Millimeter
and Submillimeter Wavelengths

NASA-CR-122923

August 1971

KANDA, M.; MAY, W. G.

Hollow-Cylinder Waveguide Isolators for use at Millimeter Wavelengths

NASA-CR-140760

November 1974

Reflection Beam Isolator for Submillimeter Wavelength

NASA-CR-140761

June 1975

Miscellaneous (cont.)

KERNS, D. M.

Scattering-Matrix Description and Near-Field Measurements of
Electroacoustic Transducers

J. of the Acoustical Soc. of America, Vol. 57, No. 2, pp. 497-507
February 1975

KING, J.; PEISER, H. S.; SANGSTER, R. C.

Guidelines for Specification and Procurement of Measurement
Instrumentation

NBSIR 78-891

June 1978

KUFFEL, J.; MALEWSKI, R.; VAN HEESWIJK, R.; LAWTON, R. A.

Dynamic Performance of Digital Recorders Used for Monitoring High
Voltage Impulse Tests

Proc. 1985 Instrum. and Meas. Technol. Conf., 20-22 March, 1985,
Tampa, FL, pp. 211-215
1985

LARSEN, N. T.; VECCHIA, D. F.; SUGAR, G. R.

VOR Calibration Services

NBS Tech. Note 1069

April 1985

LAWTON, R. A.; ANDREWS, J. R.

Optically Strobed Sampling Oscilloscope

IEEE Trans. Instrum. Meas., 25, pp. 56-60
March 1976

LEWIS, R. L.

The Wave-Hop Fields for an Inclined Dipole Over a Spherical Earth with
an Anisotropic Ionosphere

OT-ITR-RR5

October 1970

LEWIS, R. L.

Spherical Scanning Data Processing: An Algorithm for Halving the Data
Processing Effort When the Radiation into the Back Hemisphere is
Negligible

Dig., 1981 IEEE APS Int. Symp., June 1981
1981

LITTLE, W. E.

Automated Computer Controlled Measurements

Proc. 1974 Conf. on Precision Electromagn. Meas., 1-5 July, 1974,
London, England
1974

Miscellaneous (cont.)

MANNEY, C. H.

Applicability of Speech Bandwidth Compression Techniques in Mine
Electromagnetic Communications

NBS Rept. 10728

February 1972

MILLER, C. K. S.

Millimeter Wave Metrology Capabilities at NBS

Proc. 1974 Millimeter Waves Techniques Conf., 26-28 March, 1974,
San Diego, CA, 11 p.

1974

A Bibliography of Publications in the NBS Electromagnetic Fields
Division

NBSIR 80-1635

November 1980

MONTGOMERY, J. P.; CHANG, D. C.

Electromagnetic Boundary-Value Problems Based Upon a Modification of
Residue Calculus and Function Theoretic Techniques

NBS MN 164

June 1979

NAHMAN, N. S.; ALLRED, C. M.; ANDREWS, J. R.; HOER, C. A.; LAWTON, R. A.

Radar Absorber Measurement Techniques at Frequencies Above 20 GHz

NBSIR 79-1613

August 1979

NELSON, R. E.

A Guide to Voice Scramblers for Law Enforcement Agencies

NBS SP 480-8

December 1976

NELSON, R. E.; JICKLING, R. M.

Control Cable Assemblies Used with Mobile FM Receivers

National Institute of Justice, NIJ Std-0216.00

December 1981

REIDY, A. R.; GIBSON, K. A.

A Bibliography of NIST Electromagnetic Fields Division Publications

NISTIR 88-3900

September 1988

ROE, K. C.; WITTMANN, R. C.

Improved Coal Interface Detector

NBSIR 82-1663

May 1982

Miscellaneous (cont.)

ROGERS, G. J.; SAWYER, D. E.; JESCH, R. L.

Semiconductor Measurement Technology: Measurement of Transistor
Scattering Parameters

NBS SP 400-5

January 1975

SANGSTER, R. C.

Relevancy of Measurements by a Systems Approach

Proc. 1972 Joint Meas. Conf., 21-23 June, 1972, Boulder, CO,

pp. 31-37

1972

Trans. Matrix Description of the National System of Physical
Measurements

NBSIR 75-943

August 1976

Collected Executive Summaries: Studies of the National Measurement
System 1972-75

NBSIR 75-947

September 1976

Study of the National Measurement System. Final Summary Report, 1972-75

NBSIR 75-925

December 1976

Collected Executive Summaries: Studies of the National Measurement
System

NBSIR 75-947-Rev. S.

February 1978

SCAVENNEC, A.; NAHMAN, N. S.

A Simple Passively Mode-Locked CW Dye Laser

IEEE J. Quantum Electron., Vol. QE-10, pp. 95-96

January 1974

SCOTT, W. W., Jr.

New Coaxial RF-DC Ammeter

IEEE Trans. Instrum. Meas., Vol. IM-19, No. 4, pp. 318-323

November 1970

Batteries Used with Law Enforcement Communications Equipment: Chargers
and Charging Techniques

NBS Rept. 10732

June 1973

Miscellaneous (cont.)

STOLTENBERG, R. E.

RF Null Detector NBS/SND

NBSIR 73-302

June 1973

Detection of Human Intruders by Low Frequency Sonic Interferometric Techniques

NBSIR 74-364

May 1974

STOLTENBERG, R. E.; WITTMANN, R. C.

Acoustical Interferometer Wader AIW Final Report of Advanced Development Test and Evaluation

NBSIR 82-167(R)

June 1982

TAGGART, H. E.; WORKMAN, J. L.; NELSON, R. E.

Emergency Locator Transmitters: Effective Radiated Power Levels and Techniques of Determining Effective Radiated Power

NBS Rept. 9769

February 1971

VANZURA, E. J.

Creating CSUBs Written in FORTRAN That Run in BASIC

Proc. INTEREX Technical Computer Users Conf., 7-12 August, 1988, Orlando, FL, paper 20, pp. 1-18

1988

Creating CSUBs in BASIC, Part I

HP Design and Automation Magazine, pp. 18-21

October 1988

Creating CSUBs in Basic, Part II

HP Design and Automation Magazine, p. 25

November 1988

WACKER, P. F.; CORD, M. S.; BURKHARD, D. G.; PETERSEN, J. D.; KUKOL, R. F.

Microwave Spectral Tables, Volume III, Polyatomic Molecules with Internal Rotation

NBS MN 70, Vol 3.3, 276 p.

June 1969

WAIT, D. F.; BEATTY, R. W.

The 1973 Int. Microwave Symp.

IEEE Trans. Microwave Theory Technol., Vol. MTT-21, No. 12, pp. 747-751

December 1973

Miscellaneous (cont.)

WAIT, J. R.; HILL, D. A.

Fields of a Horizontal Loop of Arbitrary Shape Buried in a Two-Layer Earth

Radio Science, Vol 15, No. 5, pp. 903-912

September-October 1980

WAKEFIELD, J. P.

Addendum to Earth Terminal Measurement System Maintenance Manual

NBSIR 81-1641

October 1981

WEIDMAN, M. P.; CAMPBELL, E.

A Method for Designing Multi-Screw Waveguide Tuners

NBS Tech. Note 393

October 1970

WEITZEL, D. H.; LOWE, L. T.; ELLERBRUCH, D. A.; CRUZ, J. E.; SINDT, C. F.

Hydrogen Slush Density Reference System

NBS Rept. 9796

June 1971

NASA-CR-124764

June 1974

WHARTON, M. J.; FRUSH, C. L.; NAHMAN, N. S.

A Video Recorder for Coherent Doppler Radar

IEEE Trans. Geosci. Electron., Special Issue on Radio Metrology,

GE-17, No. 4, pp. 171-178

October 1979

WILDHACK, W. A.; MASON, H. L.; POWERS, R. S. Jr.

Accuracy Charts for RF Measurements

Proc. IEEE, Special Issue on Radio Meas. Methods and Standards,

Vol. 55, No. 6, pp. 1056-1063

June 1967

WYSS, J. C.; ANSON, W. J.; ORR, R. D.

Building Penetration Project

NBSIR 84-3009

September 1984

WYSS, J. C.; STWALLEY, W. C.; KOCH, M. E.; VERMA, K. K.

Laser Fluorescence Diagnostics of Lithium Vapor for Inertial

Confinement Applications

Topical Meeting on Inertial Confinement Fusion, February 1980,

San Diego, CA

1980

Miscellaneous (cont.)

YAGHJIAN, A. D.

Theory of Adjoint Reciprocity for Electroacoustic Transducers
NBSIR 73-329
February 1974

Direct Integration of the Field Equations for Electroacoustic Transducers
IEEE Letters, Vol. 62, No. 6, pp. 858-859
June 1974

A Direct Approach to the Derivation of Electric Dyadic Green's Functions
AP-Symposium Dig., October, 1976, pp. 76-156
October 1976

NBS Tech. Note 1000
January 1978

Electric Dyadic Green's Functions in the Source Region
Proc. IEEE, Vol. 68, No. 2
February 1980

Augmented Electric- and Magnetic-Field Integral Equations
Dig., Int. URSI Symp. on EM Waves, Munich Germany
August 1980

Radio Science, Vol. 16, No. 6, pp. 987-1001
November-December 1981

Reply to Criticism on Electric Dyadic Functions in the Source Region
Proc. IEEE, Vol. 69, No. 2
February 1981

A Delta-Distribution Derivation of the Electric Field in the Source Region
Dig., 1981 IEEE/AP-S Symp.
June 1981

YOUNG, M.; LAWTON, R. A.

Saturation of Optical Detectors at High Modulation Frequency
Proc. Annual Meeting Opt. Soc. of America, 12 October, 1977,
Toronto, Canada, Vol. 67, p. 1398
1977

Miscellaneous (cont.)

ZAPF, T. L.; HARVEY, M. E.; LARSEN, N. T.; STOLTENBERG, R. E.
Ultrasonic Calorimeter for Beam Power Measurements from 1 to
15 Megahertz

NBS Tech. Note 686
September 1976

Proc. 1976 Ultrasonics Symp., 29 September-1 October, 1977,
Annapolis, MD, IEEE Cat 76, CH1120-5SU, pp. 573-576
1977

AUTHOR INDEX

<u>Name</u>	<u>Page Ref.</u>
ADAIR, R. T.	53, 67, 68
ADAMS, J. W.	25-28, 35, 41, 43, 49, 52, 54, 57, 78, 80
AGY, D. L.	53, 60
ALLRED, C. M.	53, 54, 58, 61, 66, 67, 97
ALSPACH, W. J.	26
ANDERSON, W. T.	24
ANDREWS, J. R.	11, 26, 45, 80, 82-84, 86, 87, 92, 96, 97
ANSON, W. J.	20, 29, 100
ARTHUR, M. G.	26, 27, 47, 67, 71, 75, 90
BABJI, T.	17, 53
BACHMAN, D. D.	23
BAILEY, R. A.	95
BAIRD, R. C.	3, 5, 15, 16, 27, 90
BALDWIN, E. E.	26, 45, 80, 83, 84
BEAN, J. L.	31
BEATTY, R. W.	53, 99
BELL, B. A.	84
BELSHER, D. R.	27, 43, 77, 78
BENNETT, W. S.	22
BENSEMA, W. D.	3, 25, 27, 28, 43, 44, 47, 52, 90
BEREUTER, W. A.	77
BERRY, I. S.	94
BERRY, L. A.	90
BIGELOW, J. M.	87
BLANK, W.	86
BORSERO, M.	44
BOUILLE, R.	84
BOWMAN, R. R.	28, 29, 35, 54, 90
BOYLE, D. R.	71
BOYNE, H. S.	23, 77, 78, 92
BRANDENBERGER, H.	90
BREMER, T. H.	71
BURKHARD, D. G.	99
BUSSEY, H. E.	4, 22, 23, 77, 78, 90
CAMELL, D. G.	29, 45
CAMPBELL, E.	66, 70, 73, 100
CAVCEY, K. H.	7, 29
CHANG, A. T. C.	77
CHANG, D. C.	7, 10, 19, 46, 48, 52-54, 56, 57, 77, 79, 97
CHEW, H.	77, 91
CLAGUE, F. R.	54, 71
CLAGUE; F. R.	53
CLARK, H. E.	29, 91
COLLIER, R. S.	77, 78, 91
COOK, C. C.	54
CORD, M. S.	99
COUNAS, G. J.	54, 70, 71, 77
CRAWFORD, M. L.	4, 14, 25, 29-34, 48, 49, 54, 57
CRUZ, J. E.	4, 11, 33, 34, 45, 78, 91, 100

Author Index (cont.)

<u>Name</u>	<u>Page Ref.</u>
DAY, G. W.	4
DAYWITT, W. C.	3-5, 23, 71-76
DECKER, W. F.	34
DOBROSKI, H.	52
DOUGHERTY, H. T.	5
DRIVER, L. D.	33, 34, 42, 43, 48, 49, 54, 91
EBBESEN, H.	54
EHRET, R. L.	45
EKSTROM, M. P.	84, 89
ELLERBRUCH, D. A.	23, 54, 77, 78, 91, 92, 100
ELWELL, L. B.	68
ENGEN, G. F.	54-58, 60, 61, 63, 70, 73
ESTIN, A. J.	3, 5, 58, 74
FITZGERRELL, R. G.	6, 34, 35, 47, 90, 92
FLANIGAN, W. F. Jr.	35
FLEMING R. W.	78
FOOTE, W. J.	58, 73, 92
FRANCIS, M. H.	6-8, 15-17
FREDERICK, N. V.	68
FRIDAY, D. S.	25, 29, 35
FRUSH, C. L.	100
GALLIANO, P. G.	17, 44, 53
GANS, W. L.	80, 83-85
GATTERER, L. E.	53
GEYER, R. G.	23, 74
GIBSON, K. A.	92, 97
GINLEY, R. A.	58
GREENE, F. M.	36
GREENLEE, D. H.	7, 10
GRIMM, K. R.	16
GUILLAUME, M. E.	88
HADORN, F.	90
HALFORD, D.	74, 90, 92
HAMILTON, C.	92
HARVEY, M. E.	102
HAYES, R. E.	93
HEIM, L.	67
HILL, D. A.	6-8, 19, 23, 36-38, 58, 79, 93, 94, 100
HOER, C. A.	57, 58-62, 64, 65, 68, 95, 97
HOLT, D. R.	61, 81, 85, 89
HONDA, T.	85
HUDSON, P. A.	38, 58, 62, 66, 69, 70, 86
HUNTER, R. D.	58
HUNTLEY, L. E.	62, 63
JESCH, R. L.	8, 23, 38, 39, 62, 69, 78, 94, 95, 98
JICKLING, R. M.	80, 81, 95, 97

Author Index (cont.)

<u>Name</u>	<u>Page Ref.</u>
JOHNSON, R. B.	78
JONES, R. N.	23, 62, 63, 78, 95
JUDISH, R. M.	63
JUROSHEK, J. R.	64
KAISER, R. K. F.	64
KAMPER, R. A.	64, 65
KANDA, M.	5, 7, 9, 10, 20, 25-28, 33, 34, 39-44, 47-51, 58, 65, 71, 73-76, 81, 86, 93, 95
KERNS, D. M.	3, 11, 14, 65
KING, J.	96
KISSICK, W. A.	24
KOCH, M. E.	100
KOEPKE, G. H.	8, 28, 31-33, 37, 44, 45, 47, 48
KOMAREK, E. L.	65, 66
KREMER, D. P.	7, 11, 15, 16
KUFFEL, J.	44, 96
KUKOL, R. F.	99
LADBURY, J. M.	32, 33, 57
LARSEN, E. B.	4, 11, 29, 33, 44, 45, 48, 49, 90
LARSEN, N. T.	54, 66, 96, 102
LARSON, T. R.	75
LARSON, W.	66, 68, 70
LAWTON, R. A.	11, 23, 24, 44-46, 66, 80, 81, 83, 86, 87, 89, 96, 97, 101
LEWIS, R. L.	12, 14, 96
LITTLE, W. E.	23, 66, 67, 96
LIU, B. H.	46
LIVINGSTON, E. M.	67
LLOYD, F.	92
LOWE, L. T.	91, 100
LOWELL, W. R.	35
LUFT, P. E.	78
MA, M. T.	12, 13, 19, 44, 46-48, 52, 55-57
MAJOR, J. R.	67
MALEWSKI, R.	44, 96
MANNEY, C. H.	53, 97
MARTZLOFF, F. D.	48
MASCLET, G.	93
MASON, H. L.	100
MASTERSON, K. D.	48, 49
MAY, W. G.	42, 65, 93, 95
MCCAA, W. D. Jr.	84, 88, 89
MCLAUGHLIN, R. G.	77
MEDLEY, H. W.	28, 80
MELQUIST, D. G.	20, 38, 51, 58, 62
METZKER, R. F.	23
MEYER, K.	87

Author Index (cont.)

<u>Name</u>	<u>Page Ref.</u>
MILLER, C. K. S.	26, 49, 52, 67, 75, 76, 92, 97
MONTGOMERY, J. P.	79, 97
MORGAN, W. L.	5
MORRIS, D.	22
MUTH, L. A.	13, 14
NAHMAN, N. S.	42-44, 49, 67, 80, 81, 83-85, 87-89, 97, 98, 100
NELSON, R. E.	17, 53, 97, 99
NEWELL, A. C.	3, 5, 12, 14-16, 18, 49, 52
NORGARD, J. D.	51
ONDREJKA, A. R.	11, 20, 38, 46, 49, 57, 58, 62, 67, 69, 80, 81, 86
ORR, R. D.	10, 20, 27, 42, 43, 51, 100
PAGE, J. M.	92
PEISER, H. S.	96
PERERA, S.	3, 75
PETERSEN, J. D.	99
PETERSON, R.	92
POWERS, R. S. Jr.	100
RANDA, J. P.	43, 50, 51
REBULDELA, G.	54
REEVE, G. R.	16, 26-28, 34, 51, 53, 67, 71, 90
REIDY, A. R.	97
REPJAR, A. G.	3, 5, 7, 11, 15, 16, 52, 77
RIAD, S. M.	80, 89
RICHMOND, J. H.	22
RIES, F. X.	43, 45, 52, 54, 68, 91
RISLEY, A. S.	92
ROE, K. C.	61, 68, 79, 97
ROGERS, G. J.	98
RUMFELT, A. Y.	68
RUSSELL, D. H.	53, 68
SANGSTER, R. C.	96, 98
SAULSBERY, L. F.	62, 68
SAWYER, D. E.	98
SCAVENNEC, A.	87, 89, 98
SCOTT, W. W., Jr.	52, 68, 98
SEGA, R. M.	51
SELBY, M. C.	69
SEQUEIRA, H. B.	69
SHAFER, J. F.	17, 25, 26, 45, 52, 95
SHEERAN, S.	19, 58
SHIUE, J. C.	77
SHOAF, J. H.	90, 92
SIMPSON, P. A.	52, 69
SINDT, C. F.	100
SLADEK, M. J.	69
SMART, G. R.	54

Author Index (cont.)

<u>Name</u>	<u>Page Ref.</u>
SPAULDING, A. D.	25
SPECIALE, R. A.	58
SPIESS, W.	17, 53
SREENIVASIAH, I.	48, 52, 53
STEPPE, M. C.	78
STOKES, R. W.	78
STOLTENBERG, R. E.	79, 99, 102
STUBENRAUCH, C. F.	3-6, 15, 17, 53
STWALLEY, W. C.	100
SUGAR, G. R.	96
TAGGART, H. E.	17, 22, 25, 53, 99
TAMURA, D. T.	52
TAUSCH, H. J.	95
THOMAS, C. L.	32, 33
TIPPET, J. C.	53, 54
TOMOEDA, N. C.	25
TREADO, M. J.	17
TRYON, P. V.	66
VAN HEESWIJK, R.	44, 96
VANZURA, E. J.	24, 25, 54, 99
VECCHIA, D. F.	96
VERMA, K. K.	100
VOGLER, L. E.	90
WACKER, P. F.	15, 17, 18, 54, 99
WAINWRIGHT, A. E.	16, 51
WAIT, D. F.	3, 19, 71, 75, 76, 99
WAIT, J. R.	8, 19, 38, 58, 93, 94, 100
WAKEFIELD, J. P.	67, 76, 100
WEIDMAN, M. P.	69, 70, 100
WEITZEL, D. H.	91, 100
WERNER, P. E.	38, 62
WHARTON, M. J.	100
WHITTEMORE, T.	84
WILDHACK, W. A.	100
WILSON, P. F.	19, 48, 54-57
WILSON, W. A.	34
WITTMANN, R. C.	12, 19, 21, 79, 97, 99
WOODRUFF, J. J.	5
WORKMAN, J. L.	17, 32, 33, 99
WU, D. I.	57
WU, Y.	26
WYSS, J. C.	19, 20, 43, 58, 100
YAGHJIAN, A. D.	6, 15, 17, 20, 21, 78, 101
YATES, B. C.	54, 66, 69, 70
YODOSHIMA, I.	44
YOUNG, M.	87, 89, 101

Author Index (cont.)

<u>Name</u>	<u>Page Ref.</u>
ZALTSMAN, E. B.	22
ZAPF, T. L.	67, 102

U.S. DEPT. OF COMM. BIBLIOGRAPHIC DATA SHEET (See instructions)		1. PUBLICATION OR REPORT NO. NISTIR 89-3920	2. Performing Organ. Report No.	3. Publication Date September 1989
4. TITLE AND SUBTITLE A Bibliography of the NIST Electromagnetic Fields Division Publications				
5. AUTHOR(S) Ruth Marie Lyons; Kathryn A. Gibson (Editors)				
6. PERFORMING ORGANIZATION (If joint or other than NBS, see instructions) National Institute of Standards and Technology XXXXXXXXXXXXXXXXXXXXXXXXXXXX NATIONAL BUREAU OF STANDARDS DEPARTMENT OF COMMERCE WASHINGTON, D.C. 20234			7. Contract/Grant No.	
			8. Type of Report & Period Covered	
9. SPONSORING ORGANIZATION NAME AND COMPLETE ADDRESS (Street, City, State, ZIP)				
10. SUPPLEMENTARY NOTES Supersedes NISTIR 88-3900 ☐ Document describes a computer program; SF-185, FIPS Software Summary, is attached.				
11. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here) This bibliography lists the publications by the staff of the Electromagnetic Fields Division of the National Institute of Standards and Technology for the period January 1970 through August 1989. It supersedes NISTIR 88-3900 which listed the publications of the Electromagnetic Fields Division from January 1970 through August 1988. Selected earlier publications from the Division's predecessor organizations are included.				
12. KEY WORDS (Six to twelve entries; alphabetical order; capitalize only proper names; and separate key words by semicolons) antennas; dielectric measurements; electromagnetic interference; microwave metrology; noise; nonionizing radiation; radiation hazards; time domain; waveform metrology				
13. AVAILABILITY ☒ Unlimited ☐ For Official Distribution. Do Not Release to NTIS ☐ Order From Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. ☒ Order From National Technical Information Service (NTIS), Springfield, VA. 22161			14. NO. OF PRINTED PAGES 120 15. Price	

